

AGRI-INPUT MARKET DEVELOPMENT IN AZERBAIJAN

END OF PROJECT REPORT

January 31, 2002–January 30, 2005

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Prepared by



*An International Center for Soil Fertility
and Agricultural Development*

**P.O. Box 2040
Muscle Shoals, Alabama 35662, U.S.A.**

www.ifdc.org

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Acronyms

AKTIVTA	Azerbaijani Agri-Input Dealers Association
AMDA	Agri-Input Market Development in Azerbaijan
AzManat	Azerbaijani Currency (US \$1 = 5,900 AzM)
CPP	Crop Protection Products
FAO	Food and Agriculture Organization of the United Nations
GoA	Government of Azerbaijan
GTZ	German Agency for Technical Corporation
HYV	High-yielding varieties
IDP	Internally Displaced People
IFDC	An International Center for Soil Fertility and Agricultural Development
IR	Intermediate Results
NGOs	Non-governmental organizations
PSES	Private Sector Extension Service
RABD	Rural Agriculture Business Development
RECP	Rural Enterprise Competitive Program
SME	Small and Medium Enterprises
SO	Strategic Objective
U.S.	United States
USAID	United States Agency for International Development

Note: This End of Project Report is intended to highlight the main objectives, achievements, lessons learned, and problems encountered during the implementation of the project. Details of the AMDA operations, activities, expert reports, and technical accomplishments are available in the monthly and quarterly project reports and the annual work plans submitted to USAID.

Map of Azerbaijan Indicating IFDC/AMDA Working Areas



- **The regions covered by IFDC/AMDA project:**
South: Lenkeran, Masalli, Jelilabad; **North-West:** Ganja, Tovuz, Shemkir, Goranboy;
North- East: Guba, Gusar, Khachmaz; **North:** Sheki, Ismaili, Zakatala.

AGRI-INPUT MARKET DEVELOPMENT IN AZERBAIJAN END OF PROJECT REPORT

1. Project Overview

Dates of Project: January 31, 2002 – January 30, 2005

Contact in the United States: Ian Gregory
IFDC, Muscle Shoals, Alabama
Phone: (256) 381-6600
E-mail: lgregory@IFDC.org

The Agri-Input Market Development (AMDA) project in Azerbaijan was a 3-year project funded by a \$3.15 million Cooperative Agreement from the United States Agency for International Development (USAID). The objectives of AMDA were (a) the building of network systems that promote and support agribusiness development, specifically trade associations, policy reform, and technical advice and (b) assisting individual agro-enterprises to catalyze new ventures, expand and modernize existing facilities as well as credit accessibility while creating higher demand for agri-inputs from farmers. The objectives were intertwined and reinforced AMDA focus on increasing the supply of agri-inputs by undertaking an integrated program of agri-input dealer development, access to credit, institutional capacity building, and technology transfer through private sector extension services (PSES).

2. Executive Summary

From February 2002 to January 2005, IFDC implemented the Agri-Input Market Development (AMDA) project, a 3-year USAID-funded cooperative agreement to support the growth and development of Azerbaijan's private sector agribusinesses and thereby contribute to the country's economic growth. AMDA project activities assisted Azerbaijani agri-input dealers in the four project regions to achieve dramatic growth via a comprehensive market-oriented strategy and the development of private sector extension services. The project created functioning and competitive markets for increased sales of agri-inputs, increased access to credit, increased adoption of new technology by farmers, and the monetary value of increased agriculture output during AMDA project lifetime by using improved quality agri-inputs and best farmers' practices is calculated at \$100 million over the 3-year IFDC/AMDA project lifetime. The figure of \$100 million is the aggregated direct contribution of the IFDC/AMDA project to the Azerbaijani agriculture sector at the farmers' level.

The centerpiece of AMDA was the development and official registration of the Azerbaijani Agri-Input Dealers Association (AKTIVTA). This created market-driven networking and information exchange in both directions among dealers and between farmers and dealers. The AMDA project concept and strategy were based on the premise that transparency of quality information is the foundation for success in enhancing business activities. AKTIVTA addressed key development issues in cooperation with AMDA including provision of agri-input information to selected farmer groups, increasing farmers' output productivity, focusing on customer relationship building, introducing basic economic concepts, and promoting collaboration with public authorities to improve policy frame conditions.

A second key activity of AKTIVTA was the introduction of private sector extension services (PSES) by input dealers. The institutionalization of regular information exchange based on farmers' demand resulted in a better understanding of each others' problems and provided the base of common approaches to solving problems with regard to productivity increase, timely supply of inputs, competitive input prices, quality agriculture extension messages as well as responsibility, trust, and reliability of services offered and requested.

In addition, AMDA joined forces with other USAID partner projects in facilitating access to credits (CredAgro), referred farmers and agri-input dealers to the processing industries (RECP), and to the farming population in general (RABD). This initiative was based on cluster building approaches relating agri-input dealers, farmers, and the agro-processing industries. A varied program of technical assistance activities facilitated the production of quality products of increased consistent quality with emphasis on apple, potato, tomato, and greenhouse production processing and marketing. This created awareness of the horizontal market value added chains and potential vertical project support.

The IFDC/AMDA program directly contributed to the following USAID Strategy Objective (SO):

SO 1.3: Accelerated Growth and Development of Private SMEs in Targeted Areas

- I.R. 1.3.1 Increase Access to Production Inputs
- I.R. 1.3.2 Increase Access to Credit
- I.R. 1.3.3 Increased Market Responsiveness of Enterprises
 - 1.3.3.1 Improved Enterprises' Business, Technical and Marketing Skills
 - 1.3.3.2 Increased Adoption of Grades and Standards
 - 1.3.3.3 Improved Access to Markets
- I.R. 1.3.4 Private Membership Associations Organized
- I.R. 1.3.5 Improved Policy / Legal / Regulatory Environment and Physical Infrastructure Supporting Small and Medium Enterprises

Specific highlighted results from AMDA activities were impressive and included:

- Registration of the first and only agricultural association under the USAID program in Azerbaijan. At the end of December 2004, 85 agri-input dealers are fee-paying AKTIVTA members.
- Significant increases in sales and profits in every year of the project for the majority of AKTIVTA members.
- Tripling the volume of imported fertilizer (20,000 mt to 70,000 mt), a monetary doubling of imported crop protection products (CPPs) from \$3.5 to \$6 million, and a quadrupling of imported high-yielding seed varieties from 40 mt to 180 mt.

- The introduction of 64 new agri-input products broadened the production base and increased farmers' output productivity.
- AKTIVTA members invested \$554,200 using their own capital and credits granted amounted to \$519,500 raising total investment by AKTIVTA members to \$1,073,700.
- More than 42,000 regular farmer clients of AKYIVTA members benefited from private sector extension services.
- In total, 6,768 farmers attended field days and 10,269 farmers, dealers, and owners of enterprises received training.
- Farmers' output productivity increased during the 3-year project implementation by \$100 million.
- Increased domestic market shares versus imports for arable food products.
- Facilitation of commercial credit for private dealers through close liaison with major rural financing organizations, including training of bank officers and close AMDA/IFDC monitoring of loan repayment by dealers.
- Since inception of the AMDA project, 29 loans amounting to \$415,500 were facilitated.
- In April 2003, an international conference was held with 75 participants from eight post-socialistic countries on "Designing Policies and Institutions That Promote Competitive Agricultural Input Markets in Transitional Countries."
- A seed law policy paper was presented by AKTIVTA to the Ministry of Agriculture.
- Total cost sharing of 35.5% equivalent to \$1,117,959.

These impressive results were achieved in an extremely difficult development environment where agriculture sector policies are not conducive to private sector development and corruption is still widespread. The success achieved in developing markets, building profitable enterprises and overcoming constraints imposed by officials and regulations is credited to the introduction of democratic principles, transparency, building of group trust and capacity building of AKTIVTA members.

However, as was recognized from inception, 3 years was not sufficient to create a completely financially sustainable AKTIVTA association. AKTIVTA still requires technical assistance in two fields: managerial support and guidance to achieve financial independence.

AKTIVTA will survive in the short-term due to provisions made by AMDA. However, AKTIVTA is urgently in need of partnerships with other USAID-implementing partner projects in the agriculture sector. Collaboration until now has been weak, but short-term consultancies would assist AKTIVTA to achieve the planned results.

Lessons learned from the implementation of AMDA include those related to ensuring continuous dialogue with state and local officials in transitional economies to minimize obstructionism and the need to promote group synergy in trade and farm associations in a transparent way to enable economic benefits to arise with time. Specific lessons learned are provided.

3. AMDA Project Background

From January 31, 2002 to January 30, 2005, IFDC implemented the “Agri-Input Market Development in Azerbaijan” (AMDA) project, a USAID-funded cooperative agreement designed to support the development of Azerbaijan’s private sector agribusinesses and thereby contribute to the country’s economic growth. AMDA project activities focused on assisting the private Azerbaijani agri-input supply companies to achieve increased import and distribution of much required inputs such as fertilizers, seeds, and CPPs via a comprehensive market-driven strategy and the fostering of the creation of a well-functioning dealers’ agri-input supply association. The association was based on competitive markets rewarding sound information about profitability of modern inputs with increased quality and volume of products and services.

The project responded to a situation in Azerbaijan in which the agricultural sector had declined in all aspects. The declining agriculture sector was marked by the break-up of the Soviet Union a decade earlier in 1991. The former state-owned kolkhoz and sovkhoz farming units disappeared, as did the state-controlled input supply and product output marketing system. The now private farmers had been cut off from production subsidies and traditional market outlets. During the Soviet Union period, Azerbaijan played a significant role as raw material producer, supplying the processing industries based in other republics. Thus, after independence in 1991, Azerbaijan liberalized the economy and started introduction of an open market economy. The

war with Armenia from 1989 to 1994 was a serious setback, which resulted in a near collapse of private supply and demand oriented agriculture services.

In the aftermath of independence, a number of agri-input dealers turned to the difficult task of supplying quality agri-inputs to the farming population. New businesses suffered from outdated input market information, an inefficient distribution system, insufficient availability of and access to credit, lack of technical and marketing skills, poor economies of scale, and an inadequate customer relationship with farmers. As a result, demand for quality agri-inputs was at a very low level, negatively influencing agriculture output productivity. Inconsistent supplies and product quality together with a lack of standardization and outlet markets made economic survival difficult for the newly created class of private farmers.

It was in this context that the Baku USAID office issued a request under strategic object (SO) 1.3 (Accelerated Growth and Development of Private SMEs in Targeted Areas) and assigned as the first intermediate result (IR) the increase in access to fertilizer, seed, CPPs, and other production inputs. Identifying motivated and potential agri-input dealers and organizing them in a national agri-input dealers association was the first AMDA task. The second major task aimed at increasing demand by farmers for quality agri-inputs through development of agri-input dealer capacity to provide private sector extension services (PSES). In response, IFDC organized dealers, creating economies of scale by developing and registering the Azerbaijani Agri-Input Dealers Association (AKTIVTA). This was supplemented by setting up extension services through AKTIVTA that focused on customer relationship-building based on farmers' demands.

4. Project Strategy

AMDA's project strategy was to enable Azerbaijani agri-input suppliers to achieve supply market success through reliably supplying quality agri-inputs at competitive prices to the farming population. This involved efforts to identify significant agri-inputs in every step of the marketing process, including international procurement, distribution networks, sales, and

promotion. It included marketing campaigns and practices that communicated sound advice concerning the application of demanded quality inputs to increase farmers' output productivity.

The project's overall purpose was intertwined and reinforcing:

- a. Building of network systems that promoted and supported agribusiness development, specifically a national trade association, sources of capital, policy reform, and technical advice.
- b. Assisting individual agro-enterprises to catalyze new ventures, expand and modernize existing facilities together with increased access to credit while creating higher demand for production inputs to increase farmer output productivity. AMDA concentrated on four main goals:
 - Business Development and Training.
 - Access to Credit and Finance.
 - Association Building and Development.
 - Technical Training, Transfer, and Extension Services.

IFDC achieved these goals by an aggressive, dealer-led promotion and sales of quality agri-inputs. The framework for this effort was the development and registration of the agri-input dealers' association AKTIVTA, which was used as the main vehicle for the following interactions.

- Improving managerial, technical, and marketing skills of agri-input dealers.
- Increased access to new supply sources at competitive prices.
- Import, distribution, and sales of demanded quality agri-inputs.
- Introduction of new agri-inputs.
- Adoption of international standards and grades.
- Access of credits for agri-input dealers.
- Organized private membership of an association.
- Improved policy and regulatory environment supporting small and medium enterprises.

A number of results were generated from this program including a more efficient distribution system by networking and exchanging information among dealers, new capital investments and diversifying economic activities; higher farm production volume by increasing

farmers output productivity, increased profits for both dealers and farmers, and an improved regulatory environment by collaborating with public authorities such as the Ministry of Agriculture and the Ministry of Economic Development.

The premise of AMDA's efforts was that worldwide agricultural supplies, production, and marketing are based on economies of scale¹ positively influencing know-how transfer, purchase of input supplies, and targeted marketing campaigns for selected inputs. This principle is the foundation of the highly organized agriculture in western countries in cooperatives, producer and marketing organizations, and trade associations. It is a common economic development tool to reduce costs regarding agriculture extension, purchase of any kind of inputs, addressing productivity and marketing issues as well as allowing even smaller production units to be economically viable.

The AMDA-initiated and developed dealers' association AKTIVTA took on the same principles applied across the most potential agriculture production areas in Azerbaijan. There was collaboration at all levels of the agri-input supply chain—import, wholesale, and retail—to help set up and

***The aim of any cooperation** is to offset the weak points of individual enterprises through collaboration and gain a stronger market position than single businesses can achieve. Cooperation can be formalized or can take place without a formal framework. The rule is: the closer a cooperation aims at direct economic improvement, the greater the need for formal arrangements.*

register AKTIVTA. This was accomplished by working with the leading dealers in each of the four project regions. AKTIVTA is the first and only agriculture association under a USAID-financed partner project since the Baku office was officially established about 7 years ago in Azerbaijan. AKTIVTA is a democratic, self-managed organization dedicated to promoting the interests of its members through a variety of programs and activities. Officially registered in April 2004, the association accomplished a great deal during the first 7 months of its existence, including the development of private sector extension services (PSES).

¹ The term economies of scale refers to the situation in which, at a given and unchanging set of input prices, the unit cost of production is lower in a plant of larger scale of (annual) output than in a plant of smaller scale. This is sometimes called "real economies of scale" and is in contrast with "pecuniary economies of scale" in which the plant of larger scale may obtain inputs including finance for investment, at a lower price.

The PSES is the main association tool to attract and service regular farmer clients of individual dealers. The principal idea is as follows: dealers keep lists of their regular clients and the products they are purchasing. Every time a regular farmer customer purchases an input at the dealer's shop, the farmer is questioned about current constraints in production. According to problems mentioned, a ranking is developed. The identified problems are presented in AKTIVTA meetings aimed at identifying solutions. AKTIVTA and AMDA select a trainer who is in the position to provide profound advice to farmers to help overcome their constraints. The dealer organizes a meeting at the retail shop (or village tea house) inviting the regular farmer customers. The selected trainer will arrive at the determined place and time providing respective technical advice to farmers and answering questions.

Two very important points are covered in this way—first, farmers are provided with professional technical advice on how to overcome existing problems (related to fertilization, identification of diseases, pest and disease control measures, germination of seeds, etc.). Second, farmers learn and get used to recognizing that dealers' shops are not only a point of sales, but a location of professional advice and information exchange of new developments in the agriculture sector as well.

The motivation of dealers originates from increased sales and thereby profits when providing good professional advice. Professional advice has a price: travel costs and payment to the person providing the advice. In ideal cases such costs are paid out of the profits from increased sales turnover by dealers.

As association members began submitting their ranking of farmers' problems, a survey of farmers was initiated to help gain insight into their production problems and preferences vis-à-vis agri-inputs. The resulting

*The keystone of every group approach is developing a **sense of solidarity**. This can be done more efficiently in small groups than in those with many members having divergent interests. It may make sense to precede economic activities with measures to build up a group.*

findings helped to shape a training program timely implemented by the Senior Agronomist and Extension Advisor of AKTIVTA. In addition, a great number of written production recommendations had been documented and published by AMDA/AKTIVTA. Although this is

an expensive component of the AKTIVTA program, advice and promotion are essential since increases in production and quality facilitated by trainings may have only a limited effect on sales if the public is not informed accordingly.

Therefore, market campaigns for selected agri-inputs that are most urgently required to increase output productivity were designed in close collaboration with AKTIVTA members. These efforts consisted of an introductory public relations campaign about AKTIVTA and its activities at the national level via the well-known “Dialogue” television program. The national campaign aimed at three targets: (a) introduction of AKTIVTA and related activities, (b) utilization of quality agri-inputs and productivity increase, and (c) pests and disease control measures in production. The aim was to introduce AKTIVTA and their member activities to the general farming population, build awareness and change farmers’ behavior, and then remind and reinforce awareness about new agri-input purchase behavior.

Moreover, at a regional-level tailored extension messages for individual crops were developed in the form of posters, leaflets, brochures, and booklets reaching a distribution of 50,000 copies. Emphasis was placed on quality production and understandable messages for farmers. Most of today’s Azerbaijani farmers are not farmers by tradition but by default. This is a result of the overall transition of the national economy and particularly the privatization process of the agriculture sector including the land reform.

The centerpiece for documenting the economic viability of higher quality inputs, increased output productivity, introduction of new agri-inputs, and appropriate application of inputs were field demonstrations. Every agriculture season new field demonstrations were designed and implemented in collaboration with AKTIVTA members and regular farmer clients. Technical targets were different fertilizer applications, high-yielding quality seeds, and appropriate pest and disease control measures. Moreover, imported advanced greenhouse technology from Israel, including drip irrigation units and motorized sprayers from Turkey, completed the range of promoted agri-inputs.

Trade missions to neighboring countries (Georgia, Russia, and Turkey) resulted in competitive input supply sources according to quality, quantity, and price levels. Trust and reliability in timely supplies played a major role for Azerbaijani importers. As a result, more than 64 new agri-inputs were introduced reaching commercial trading level.

All services provided by AMDA were targeted at AKTIVTA members. This exclusivity provided the base for members paying the annual membership dues and fees for individual services. Exclusivity also entails making choices to whom to provide services at both the dealer and

Defining objectives:

*Agreeing and publishing a coherent and unambiguous set of objectives is important for setting up groups and associations for their long-term stability. Equally important is **clarity about the consequences of achieving the set objectives**. In most cases, members have to make an advanced investment without a guarantee of economic success in the short run.*

farmer level. Because it is very clear that only AKTIVTA members received services through their organization, it is quite different at the farmer level. The four agriculture regions with the most potential were the prime targets of the AMDA project. In the process of implementation, requests were served as well when AKTIVTA extended its activities in non-prime target areas. Farmers producing at the subsistence level were excluded as were very large farms belonging to the top 5% of the farming population. It was decided to focus on the medium-sized farmers who have access to farm resources (land, labor, capital, know-how). This pre-selection allowed and provided substantial support for farmers to become real professional producers and made best use of allocating the limited AMDA budget.

Two additional services were provided by AMDA related to output marketing and diversification of investments in agriculture related activities. These extra services were offered in regions where crops with a comparative advantage are grown and dedicated dealers work. Several dealers received AMDA support in planning, setting up, and operating agro-industries such as milling, poultry production, machinery-contract services, and building of a cold store. On the output marketing side especially, the very early growing of spring potatoes was supported extensively as was the production of quality apples. For both crops, high-end domestic and selected export outlet markets could be sourced and sales increased every year during AMDA implementation.

A well-planned and implemented project planning matrix supported by dedicated Azerbaijani project staff made it possible to achieve the impressive IFDC/AMDA project results.

5. Technical Project Indicators, Activities, and Outcomes

In agreement with USAID Baku, a technical indicator and outcome statement was developed. These indicators measure verifiable facts and figures from February 2002—before IFDC/AMDA started project implementation vis-à-vis achievements—until January 2005 when the AMDA project closed out. The overview provides focus on direct measurable indicators. In Chapter 6, project results are presented including qualitative indicators.

Technical Indicator Statement of IFDC/AMDA Project, January 2005

No.	Indicators	Unit of Measure	Base	Cumulative Since Inception of Project
1	Sales volume of fertilizers	Dollars	4,000,000	10,500,000
		mt	20,000	50,000
2	Sales volume of improved seeds	Dollars	-	-
	Vegetables	mt	40	180
	Seed potatoes	mt	300	2,400
3	Number of farmers purchasing fertilizers	No. of farmers	400,000	300,000
	Number of farmers purchasing improved seeds	No. of farmers	400,000	300,000
	Number of farmers attending field days	No. of farmers	0	6,768
4	Credit: Total value of loans	Dollars	71,500	519,500
	Number of borrowers	No. of borrowers	9	32
5	Number of new products or services introduced	No. of enterprises	0	64
6	Number of enterprises that enter new markets	No. of enterprises	0	46
7	Number of people/enterprise employees trained	No. of people	0/0	10,269/225
8	Number of people/enterprise employees who report applying training skills	No. of people	0	755
9	Number of enterprises adopting and complying with accepted standards	No. of enterprises	0	137
10	Number of new opportunities for receiving market information	No. of new opportunities	0	17
11	Membership of associations created	No. of members	0	85
12	Number of associations that collect membership fees	No. of fee paying members	0	1/85
13	Total dues, service fees, and other association revenue	Dollars	0	30,290

Note: Reliable national statistical figures are not available. Figures provided are based on project information and/or project estimates.

TSP, MOP, MAP, DAP, Urea, NPK, micronutrients, three fertigation fertilizers, greenhouse, drip irrigation, two determined seed varieties, 18 high-yielding vegetable seed varieties, 31 different agro-chemicals, motorized CPP sprayers, etc.

In the following paragraphs the technical indicators are described in detail and some background information provided for better understanding. The column **Base** shows figures as surveyed in 2002. The figures from column **Cumulative Since Inception of Project** are accumulated figures achieved during the 3-year AMDA implementation. Adding both figures describes the actual situation in January 2005.

No. 1: Sales Volume of Fertilizers

In 2002 the use of fertilizers was stated by the Azerbaijani National Statistical Committee as 20,000 mt or a monetary value of US \$4 million². In 2005 the annual imports—no fertilizer has been manufactured in Azerbaijan since 1990—reached 70,000 mt or \$14.7 million³. This is a net increase of 50,000 mt (250%) or \$10.5 million realized with support of AMDA. The IFDC project proposal for AMDA targeted a doubling of the 20,000 mt fertilizer during project implementation.

Three main reasons are responsible for this excellent result. First, by creating economies of scale, fertilizer could be purchased and imported at competitive prices. Second, the reorganization of the supply chain (importer, wholesaler, and retailer) created an improved distribution network. Third and most important, through the PSES field demonstrations, the economic viability of quality fertilizer increased farmers' demand. In addition, emphasis was placed on importing different kind of fertilizers and balancing plant nutrition resulting in higher output productivity.

The set target was significantly exceeded.

No. 2: Sales Volume of Improved Seeds

In 2002, the import of high-yielding seed varieties and seed potatoes was stated at 40 mt and 300 mt, respectively. Because seed prices differ tremendously, it was not possible to assign an average monetary value. In 2005 the import of high-yielding seed varieties—no certified high-yielding seed

² As an average price the costs per ton of fertilizer is calculated with \$200/mt.

³ The fertilizer prices increased and are calculated in average with \$210/mt.



varieties are produced in Azerbaijan—and seed potatoes reached 180 mt and 2,400 mt, respectively. This represents an increase of 450% for vegetables and fruits and 800% for seed potatoes. The IFDC project proposal for AMDA estimated a doubling of the high-yielding seed variety imports.

Reasons for this notable achievement are listed under indicator No. 1. However, investment in production is primarily dependent on marketing and sales of agriculture produce. AMDA concentrated on the promotion of comparative advantaged crops and vegetables whereby one indicator was the gross margin calculation and the other one a surveyed consumer demand. The introduction of either very early or very late maturing seed varieties allowed capturing the high price segment during seasonal production. Moreover, improved quality production resulted in increased output prices.

New supply sources for high-yielding seed varieties were identified during trade missions to Russia for seed potatoes including the import of German-originated seed potatoes in 2003. Major supply sources for vegetables and fruits are The Netherlands, Turkey, Russia and, to a lesser extent the United States, Uzbekistan, Iran, and Israel.

The set target was significantly exceeded.

No. 3a: Number of Farmers Purchasing Fertilizers

Due to the collapse of the Soviet Union and the breakup of the former state-organized supply system, it is estimated by the international donor community and supported by the Azerbaijani National State Statistical Committee⁴ that approximately 400,000 out of a total of 850,000 farming families applied fertilizer on a more or less regular basis.

The 85 registered AKTIVTA members service more than 42,000 regular farmer customers. It is calculated that in addition each member services three one-time customers for each regular customer. This results in a total of about 100,000 farming families purchasing fertilizers yearly. An estimated 700,000 farmers (400,000 base plus 100,000 annually since

⁴ The European Commission through their Food Security Program supports the National State Statistical Committee in writing and publishing the Annual Agriculture Statistical Yearbook.

project inception) applied fertilizer on their fields in 2005. The remaining 150,000 farming families can best be described as subsistence farmers living in very remote locations, cultivating very small plots, do not have access to input and output markets or credits and, lastly, their farming system is overwhelmingly focused on animal production.

It is of importance to note that most farming families apply fertilizer only in field crops urgently required for home consumption such as wheat or in cash crops such as selected vegetables and fruits. However, for nearly all farmers the great unknown concerns the marketing side. Marketing of agriculture produce is hardly organized including accusations by each side of not keeping contracts and agreements. Generally, marketing is characterized by missing guidelines regarding quality, quantity, standards, hygiene, lack of marketing infrastructure, non-existing relationships with regard to output markets, missing market information system, insufficient advice and public support for producer groups, and absence of vertical and horizontal integration and coordination just to name a few basic pre-conditions.

Demand for fertilizer and additional quality agri-inputs is a demand derived from output markets. Therefore, many farmers apply fertilizer only when they are sure to sell their produce or in case cash is available from another income source. Out of the 700,000 farming families applying fertilizer, approximately 200,000 farming families are using fertilizers regularly. This corresponds with data from FAO which states that in Azerbaijan approximately 6-7 kg nutrients per hectare are applied compared with about 80 kg in Western European countries.

The number of farmers applying fertilizer increased by 75%; however, fertilizer is applied very erratically.

No. 3b: Number of Farmer Purchasing Improved Seeds

The same principle applied to farmers using fertilizer applies also for farmers using high-yielding seed varieties. The principle of the Green Revolution is understood by the Azerbaijani farming families: using appropriate seeds and fertilizers, controlling pests and diseases as well as irrigating the fields will increase output productivity tremendously. However, three major points are insufficiently addressed—first, the production knowledge at farmers' level; second, public and private support for farming families regarding contributory assistance such as credit,

infrastructure, public campaigns, legal and regulatory frame conditions; and third, the development of sound marketing systems.

It is not that one constraint is addressed followed later by addressing the remaining constraints, but all three areas have to be worked on simultaneously over a longer period of time. This requires a national concept and strategy supported by all providing assistance to the agriculture sector. Presently, a national agriculture development plan does not exist.

High-yielding seed varieties are increasingly and regularly purchased by the middle-sized farming families. However, the Green Revolution promoted package increases output productivity if all individual components are used at the same time plus functioning output marketing systems.

The number of farmers using high-yielding seed varieties increased by 75%; however, this is erratic due to other missing auxiliary services and access to know-how, finance, and output markets.



No. 3c: Number of Farmers Attending Field Days

A total of 6,768 farmers attended some 49 field days organized by AMDA/AKTIVTA. This is an exemplary record. Field days are centerpieces of the introduced PSES. Demonstrations were implemented by farmers and dealers under constant supervision by AMDA/AKTIVTA. Thereby, the active participation of farmers and dealers gained importance as it focused on the “learning by doing” method. In this way, both farmers and dealers learned from the beginning

what, why, and how to improve the current production level. The underpinning theory is based on the cognitive-behavioral approach⁵ that is structured, active, and typically time-limited.

After the first 12 months, many dealers and farmers requested to have demonstrations implemented on their fields. Selection criteria were developed and dealers (and their regular farmer clients) had to compete with one another. AMDA/AKTIVTA took care that emphasis was placed on crops having a comparative advantage.

Typically, technical field demonstrations are divided three ways: no application of agri-inputs, current application practices, and improved application practices. The three results are then compared and analyzed. Therefore, each field day was supported by training units to explain both the increased output productivity including better quality of products and the resulting economic viability. The field demonstration approach is very time consuming and costly; however, the increasing number of farmers applying fertilizer and purchasing high-yielding seed varieties justified respective project expenses. Azerbaijani farmers prefer the practical field demonstration on a farmer's plot compared with the classroom type of learning. This has been confirmed by AMDA surveys and the results indicate very clear preferences: field demonstrations, written extension messages, and last, classroom learning. AMDA and AKTIVTA paid attention to this preference and encouraged dealers to invite farmers on a regular basis to capture seasonal production issues.

Results of field demonstrations were published and made available to the farming population through AKTIVTA members only. In addition, at selected field days local TV-stations were invited to broadcast these events to thousands of interested rural residents.

⁵ Basic to cognitive-behavioral approach is a set up of principles captured briefly as follows: (1) Client and project work together to evaluate problems and generate solutions. (2) Most human learning is cognitive mediated. (3) Cognition, affect, and behavior are causally interrelated. (4) Attitudes, expectancies, attributions, and other cognitive activities are central in producing, predicting, and understanding behavior and the effects of the approach.



Farmers attending field days acted as multipliers of best farmer practices. During autumn season 2004 AKTIVTA members provided services to more than 42,000 regular farmer clients.

No. 4: Credit: Total Value of Loans and Number of Borrowers

Credit was critical to the business success of project clients and to the value they perceived in joining the trade association. Finance for agribusiness is still scarce in Azerbaijan given the risk involved and strict collateral requirements of the banks. However, AMDA forged alliances with financial institutions aimed at facilitating access to credit for AKTIVTA members. The project staff identified creditworthy clients, helped them prepare business plans and loan applications, introduced them to the project-lending partners, continued to monitor the loans, and provided technical and business advice throughout the duration. As a result of the coordinated program of technical and business assistance, project clients were able to expand their enterprises and increase their domestic investments.

In total, \$519,500 was granted to 32 AKTIVTA members. The initial target set in the project proposal of \$560,000 was missed by a very small margin given the major difficulties of financing agencies in providing credit to the agriculture sector in general.

This very good result under Azerbaijani conditions was made possible by a coordinated effort of AMDA and CredAgro projects. The former being implemented by IFDC and the latter by ACDI/VOCA. During the first year of AMDA project implementation, both projects agreed to ease access of credits for agri-input dealers and started several rounds of meetings in which regional CredAgro Offices explained respective procedures obtaining loans. Thereafter, AMDA prepared business plans in collaboration with applying dealers and presented these business plans to CredAgro. In the second and third year of AMDA project implementation, not much assistance was required by agri-input dealers because both dealers and regional CredAgro Offices developed a mutual base of collaboration.

No AKTIVTA member failed in repaying a granted loan as of January 2005.

In addition, AKTIVTA members invested \$554,200 using their own capital. This is related to thorough marketing efforts by the AMDA Credit and Finance Unit. Selected investment areas such as renovation of existing shops to appropriate standards, business diversification in processing, production, cold store, and greenhouse production were analyzed and pro-actively promoted.

Adding marketing activities into the AMDA credit and finance unit was purposely introduced to mobilize private capital. The aim was that dealers learn to understand that for economic development it is imperative to invest their own capital because this is the best indicator for drawing the attention of financing agencies sharing risks in the agri-input sector and in agriculture in general.

Emphasis was placed on setting up reliability and trust relationships between agri-input dealers and the financing sector. In this way the role of AKTIVTA was positively supported as a trustworthy and reliable network of organized agri-input dealers. Moreover, it provided the basis for CredAgro to introduce new financial services to a larger number of potential customers.

Overall total in receiving credits and using own capital amounted to \$1,073,700. This is an excellent result for AMDA project.

No. 5 Number of New Products or Services Introduced

More than 64 new products and services were introduced to the target group of agri-input dealers over the lifetime of the AMDA project. Next to new agri-inputs such as different kind of fertilizers, CPPs, high-yielding seed varieties, motorized sprayers, and Israeli greenhouse technology, the transfer of “software” concerning communication played a major role.

Notably, reference is made to the development of AKTIVTA as an organized approach reaching economies of scale to address problems and identify solutions for agri-input dealers by setting up and implementing PSES as the focal point. Networking and information exchange among AKTIVTA members and between AKTIVTA and international supply sources built the base in providing market transparency and encouraging competition. Numerous group and individual meetings were held to this effect.

In addition, the dealers’ services to farmers improved tremendously, reacting to demand and supply; listening and analyzing farmers’ problems and acting accordingly; building customer relationships with the farming population; and taking the role of progressive innovators in agriculture production.

The number of new services and products (64) exceeded the set target (10) as stated in the project proposal by over 500%.

No. 6: Number of Enterprises that Enter New Markets

At the start of the AMDA project, few agri-input enterprises had the courage or knowledge to introduce new agri-inputs or services. After 3 years of project implementation, 46 AKTIVTA members—about half of the membership—voluntarily entered new markets with regard to input supply resources, new products and services, and customer relationship building. The emphasis is placed on voluntary activities and contributions.

The adaptation rate, as set in the Bell Curve for innovators in the agriculture sector, is generally determined at 17.5%. The AMDA results of 50% clearly indicate that, with a sound project proposal, a well-planned project matrix, and targeted implementation, very good results can be achieved.



AKTIVTA member Shamistan from the Tovuz region was granted a credit to erect the only functioning cold store in his home region. The cold store has a capacity of 350 mt and is managed by his son. Shamistan is a main supplier of seeds and CPPs to the farming population.

He is member of the AKTIVTA Executive Council as well as a member of the Marketing Working Committee.

Enterprises entering new markets are related to activities offered repeatedly and sold according to structured demand of the farming population. This is to say these new markets have become standard for AKTIVTA organized dealers.

Entering new markets has become standard for ATKIVTA members underlining AKTIVTA's role as innovator in the agriculture input supply sector.

No. 7: Number of People/Enterprise Employees Trained

In total, 10,269 individuals and 225 agro-businesses were trained. Dealer training was the main priority and progressive farmers a second priority. During the lifetime of the AMDA project the project areas were extended to neighboring districts. Agri-input dealers from adjacent districts outside the planned project area continuously approached AMDA/AKTIVTA to receive project support.

As a strategy, emphasis was placed on the active contribution of new area dealers. The aim was not to increase the number of AKTIVTA members, but their willingness and motivation to develop the agriculture sector.

The agro-businesses received training in business development, marketing, access to credit and finance, and setting up the PSES with a focus on customer relationship building. These training units were provided either at national and regional level or with individual companies according to the specific requests.



Apple growers in the Guba/Khachmaz regions received training in pest and disease control measures. AKTIVTA organized demonstrations applying newly introduced CPPs resulting in a 30% increased production and simultaneously improving apple quality. Through building output market relationships, about 75% of all apples produced are sold to Russia.

Open field days and field demonstrations played a major role in implementation. Concentrating on targeted crops and related problems, AMDA/AKTIVTA' public awareness campaigns and training units of best farmers' practices became well known among the farming population. Supportive to this were the numerous TV broadcasts and the publication and dissemination of more than 50,000 technical leaflets, posters, brochures, and booklets.

When AMDA surveyed individuals and companies and asked for reasons of attendance and participation, the answers could be grouped in two categories: (1) addressing the most urgent problems faced by farmers and companies and (2) the dedication, determination, reliability, and trust in developing relationships with the respective target group.

The great number of people and enterprises trained expressed their professional satisfaction with the services received by AMDA/AKTIVTA.

No. 8: Number of People/Enterprise Employees Who Report Applying Training Skills

The basis for this is the employees of AKTIVTA member dealers and selected farmers who actively participated in the implementation of field demonstrations and introduction of new farm technology. A total of 755 individuals and trained companies reported the application of newly introduced skills. This number may sound small; however, *de facto* it refers to people who

are multipliers of new practices. In the years to come these multipliers will be training or providing services to several thousands of farmers and other companies.

AMDA trained 755 individuals and companies acting as multipliers beyond the lifetime of the project.

No. 9: Number of Enterprises Adopting and Complying with Accepted Standards

A total of 137 companies adopted newly introduced standards with regard to accessing new supply markets, purchasing certified agri-inputs, providing improved sales services, and building new relationships for output marketing. In addition to the 85 AMDA members, a number of non-member companies working in auxiliary agriculture services were also trained: namely, AMDA associated importers, processing companies, large greenhouse producers, decorative flower producers, agriculture produce export companies, and NGOs active in agriculture extension.

The AMDA project published three booklets promoting European Union standards for production and trade of agriculture products on domestic and export markets. In addition, these publications received high attention in public offices such as the Ministry of Agriculture, the Ministry of Economic Development, and the National Committee of Standardization.

A survey conducted by the German Agency for Technical Cooperation (GTZ) regarding safety standards for CPPs found out that nearly all AKTIVTA members comply with the minimum international standards of keeping and selling CPPs. In contrast, most of the agri-input dealers who were not members of AKTIVTA were not in compliance with respective international standards.

A total of 137 companies adopted and complied with accepted international standards.

No. 10: Number of New Opportunities for Receiving Market Information

New opportunities for receiving market information were created during trade missions to Turkey, Russia, Georgia, and a study tour to Israel. Attending trade fairs, building business-to-

business information exchange, using electronic websites, and international magazines provided the base for an improved market information system. Networking and information exchange among AKTIVTA dealers and between international suppliers and AKTIVTA complete the range of expanded market information avenues.

Receiving up-to-date market information allowed AKTIVTA members to identify new supply sources and to compare products, prices, quality, timing, and reliability of services offered.

AMDA continued to collect and disseminate its input market information and integrated this information with USAID partner projects and other donor projects in the regions where AMDA developed activities.

By receiving sound market information agriculture output productivity and quality production increased.

No. 11: Membership of Associations Created

No. 12: Number of Associations that Collect Membership Fees

No. 13: Total Dues, Service Fees, and Other Association Revenues

For ease of understanding and to avoid repetition, the above three project indicators are dealt with together. IFDC/AMDA decided to develop one national association for agri-input dealers with 4 subgroups in the working regions of Guba/Khachmaz, Ismailli/Sheki, Guba/Tovuz, and Masalli/Jalilabad/Lenkeran. Each working region is composed of several districts and represents those regions with the highest agriculture potential in the country for wheat, fruits, vegetables, and potatoes. Regions differ very much in climatic conditions and represent seven out of the nine agro-ecological zones in Azerbaijan from subtropical to Mediterranean and also to dry, moderate, cold conditions. This is to say that each agro-ecological zone has quite different demands for high-yielding seed varieties, different fertilizer regimes, disease and pest control measures, and finally, farmers' best practices. The enormous differences concerning field crops and climatic conditions forced the IFDC/AMDA project to concentrate on promotion and advice on selected topics and field crops due to the limited project resources.

In the first year of project implementation, AMDA surveyed the four regions with respect to the number of dealers operating in the regions and the existing growing practices for field crops. It became very obvious that concentration had to be on field crops indicating a comparative advantage according to market demands and farmers' income.

Wheat is an important crop for household security⁶ and is considered by the Government of Azerbaijan (GoA) to be a strategic crop. Potatoes are produced very early in southern Azerbaijan and late in Northwestern Azerbaijan providing very high export potential for early potatoes and the late potatoes for domestic markets. First quality production of tree fruits such as apples and hazelnuts are mainly exported either to Russia (apples) and Turkey (hazelnuts). Vegetables grown in subtropical climates and greenhouses are prime products for export mainly to Russia and all year round on domestic markets. Demand for quality vegetables originates chiefly from the capital Baku due to high purchasing power of the local population and the estimated 50,000 workers employed in the oil industry.

At the end of Project Year One, IFDC/AMDA interviewed more than 150 agri-input dealers. At the beginning of Project Year Two, a total of 64 agri-input dealers signed a letter of intention to join the Azerbaijani Agri-Input Dealers Association (AKTIVTA). Throughout Project Year Two, AMDA focused work on two important aspects. First, show the superiority of quality agri-inputs through demonstrations increasing productivity, production, and crop quality; and second, to lay the foundation and transfer the know-how principles of AKTIVTA as a democratic and privately organized association. In April 2004, during Project Year Three AKTIVTA was officially registered by the Azerbaijani Ministry of Justice. Registration of privately organized groups such as an association is considered to be a very difficult task in Azerbaijan. In 2004 more than 2,000 applications were waiting for approval, but only nine applications were approved.

AKTIVTA is the first and only officially registered agriculture association by a USAID-financed partner project in Azerbaijan.

⁶ A family of four people consumes an average of 60 kg bread per month according to national statistics. Every year between 300,000 and 400,000 mt of wheat are imported mainly from Kazakhstan, Russia, and Ukraine. Productivity with an average of 2.2 mt/ha is very low compared to international standards (average production in The Netherlands is 7 mt/ha).

As of the end of January 2005, 85 membership dues paying agri-input dealers had joined AKTIVTA. The total association revenue at the end of January 2005 amounted to \$30,290 including membership fees, dues, and income from other services provided.

Azerbaijan is administratively divided into 64 districts. In January 2005, AKTIVTA members provided services in over 30 districts to more than 42,000 regular farmer customers. In every district a great number of individuals sell agri-inputs in bazaars according to seasonal demands. In total, approximately 500 agri-input dealers sell agri-inputs. However, only about 30% of professional agri-input dealers make a living from sales of agri-inputs. Therefore, the total number of professional agri-input dealers is estimated at 200. Central Azerbaijan and mountainous districts were not covered by AMDA.

Central Azerbaijan is dominated by a farming system composed of cotton, livestock, and wheat production for household security. The mountainous regions are dominated by a farming system composed of livestock and wheat subsistence production. In the mountainous regions, purchasing power is very low according to natural and economic resources, the farming system, and the remoteness to output markets. In central Azerbaijan cotton seeds and related agri-inputs are sold by the cotton ginneries. Therefore, both areas were not prime targets for AMDA. In addition, a great number of NGOs and humanitarian donor projects are active in these regions providing agriculture services among others due to settlements of Internally Displaced People (IDPs) (estimated at 1 million) from the Nagorno-Karabakh War in 1989/94.

AMDA placed emphasis on providing professional advice to already existing agri-input dealers in the designated project regions instead of increasing the number of agri-input dealers per district. According to the present demand structure for agri-inputs, only a limited number of agri-input dealers can make a living from respective sales and provide professional advice to the farming population. Increasing the number of dealers per

AzerNews, January 26, 2005

Azerbaijan Starts Potato Exports

Azerbaijan started exporting potatoes to Russia and other neighboring countries last year, Chairman Arif Valiyev of the State Statistical Committee told journalists.

A record high of 930,100 tons of potatoes was harvested in the country in 2004, representing a 21% increase over 2003. The increase in potato production was due to expansion of cultivated area and productivity increase, Valiyev said.

district would have resulted in economically sharing a small market and decreasing the profitability of each dealer.

The sheer availability of quality agri-inputs does not automatically increase sales. Lack of purchasing power for agri-inputs, insufficient production know-how at farmers' level, inadequate output marketing systems, economies of scale, and a missing agricultural policy framework addressing aforementioned problems have to be considered when increasing the sales of agri-inputs. AKTIVTA played a major role through their PSES by implementing field demonstrations advising both farmers and dealers with best farmers' practices. Demand for agri-inputs is a derived demand based on purchases by the agro-processing industries and fresh consumer markets. In individual cases such as apples and potatoes, the AMDA project assisted growers and dealers to identify potential markets and marketing strategies and started selling respective products to Russian markets.

Through numerous field demonstrations the area of potato production and productivity increased tremendously as noted by the National State Statistical Committee. The introduction of very early seed potato varieties, quality fertilizer application, and appropriate pests and disease control measures are particularly responsible for this very good result. These are exactly the activities promoted by IFDC/AMDA and AKTIVTA (annex success story).

Eighty-five fee-paying agri-input dealers have joined AKTIVTA, which was officially registered by the Ministry of Justice on April 24, 2004. AKTIVTA is fully operational continuing AMDA work in 2005.

6. Project Results

When examining the set of project indicators it will be noticed that all indicators have met or exceeded the planned targets.

By all indications, AMDA has been a resounding success. One of the reasons why it achieved its intended results is that the program created incentives for each of the various actors involved in the marketing chain: particularly the agri-input suppliers and farmers but also fresh

product traders and the processing industries. Not only have agri-input suppliers and farmers gained from increased sales and production but consumers have benefited from the timely availability of less expensive, higher quality, food products.

Results at the company level have been impressive and include:

- Significant increases of imported fertilizer from 20,000 mt in 2002 to 70,000 mt in 2005 from different international suppliers.
- Significant increases of imported high-yielding seed varieties from 40 mt in 2002 to 180 mt in 2005 from different international suppliers.
- Farmers applying fertilizers and high-yielding seed varieties peaked at around 700,000 in 2005 compared with 300,000 in 2002.
- Total investment from AKTIVTA members reached \$1,073,700 composed of \$554,200 of their own capital and \$519,500 granted through arranged credits.
- More than 64 new agri-inputs were introduced at commercial level; among them are seven greenhouses using imported technology from Israel.
- Fourteen new strategic partnerships formed between importers, wholesalers, and retailers through developing an improved supply chain.
- Ten thousand, two hundred and sixty-nine individuals and two hundred and twenty-five private companies received training whereby 137 companies reported adopting and complying with accepted international standards.
- Seventeen new opportunities for receiving market information were set up for importers, wholesalers, and retailers.
- The national Azerbaijani Agri-Input Dealers Association (AKTIVTA) was developed and officially registered as the first and only registered agriculture association by a USAID-financed partner project in the country.
- The private sector extension services (PSES) have been developed and are being used by AKTIVTA members to relate to agri-input dealers and farmers on a regular basis about new developments in the agriculture sector and on technical features for increasing field output productivity.

Beyond increasing imports and sales of agri-inputs, the IFDC/AMDA project fostered product standardization that helped farmers in selling their field crops. Furthermore, the introduction of new agri-inputs led to higher output productivity at the farmers' level. However, the most important point was the introduction of networking, information exchange, horizontal and vertical integration of agriculture actors along the value added chain, building customer marketing relationships, and lobbying activities with the public sector offices.

6.1 Macro-Economic View

Between 2002 and 2005, an additional 50,000 mt of fertilizers have been imported. According to FAO calculations every kilogram of fertilizer being additionally applied in wheat production raises output by 5 kg of grain⁷. Assuming that 40,000 mt of fertilizers have been applied in wheat production, the following simple calculation (calculations are based on minimum factors and prices during project implementation shows):

- 40,000,000 kg fertilizer x 8 kg additional wheat/kg fertilizer = 320,000,000 kg additional wheat
- 320,000,000 kg additional wheat x \$0.16/kg wheat = \$51,200,000

This calculation indicates that, by applying 40,000 mt of the additional imported fertilizer in wheat production, the value added is calculated at \$51.2 million.

This is a very conservative estimate because, of course, 40,000 mt fertilizers were not only applied in wheat production but also in vegetable and fruit production. Here the return of value added is higher compared to wheat production simply because vegetables have a higher per unit price.

Increase in per unit land productivity increases by using a factor combination of high-yielding seed varieties and appropriate levels of fertilizer applied. In vegetable production a factor 10 is being used to measure the increase in output productivity. For ease of calculation an

⁷ This official FAO calculation allows the value added when applying additional and improved agri-inputs such as fertilizers, high-yielding seed varieties, and disease and pest control measures (this applies for fertilizer only until the law of diminishing returns applies). In grain production a factor of 1 to 15 is being used when applying fertilizer with high-yielding seed varieties planted.

average price of \$0.40 is being used for a variety of vegetables. In addition, assuming that only 10,000 mt of fertilizer was used in vegetable production, then:

- 10,000,000 kg fertilizer x factor 10 output increase/improved varieties = 100,000,000 output units.
- 100,000,000 output units x \$0.4/per unit = \$40,000,000.

By applying 10,000 mt of the imported additional fertilizers in vegetable production using high-yielding seed varieties (HYV) the value added is calculated at \$40 million.

Appropriate pests and disease control measures are added next to increase fertilizer application and use of high-yielding seed varieties. It is generally estimated that every year 30% of the total output production is lost due to improper pests and disease control measures. In 2002, total sales of CPPs were estimated at \$3.7 million. In 2005 total sales are estimated at \$6 million (sales figures are from major suppliers in Turkey and Russia). Assuming a mixed calculation for a range of products such as potatoes, vegetables, and fruits, which are major crops for CPP application.

- National output of products in 2004 assumed at 250,000,000 mt x 30% increase through improved CPP application = 75,000,000 mt.
- 75,000,000 mt mixed output products x \$0.30 per kg sales price = \$22,500,000.

Through improved application of appropriate pests and disease control measures a total output value amounting to \$22.5 million has been achieved.

Calculation of monetary value added by applying improved quality agri-inputs additionally imported and sold by AKTIVTA members from 2002 to 2005 is shown here.

Value Added From Inputs	\$ Million
Monetary value by applying additional fertilizer (Wheat)	51.2
Monetary value by using additional HYV and fertilizer (Vegetables)	40.0
Monetary value by using additional CPPs (all crops)	22.5
Overall Total	113.7

The above calculation is based on additional quality agri-inputs imported comparing base year 2002 (start of AMDA) and 2005 (AMDA closed out). All figures used in the calculation are minimum figures regarding factor use, increase in productivity, prices per kg of product, and quality improvement. A further discount of the \$113.5 million by 12% could be assumed due to misuse in agri-input application, price fluctuations, and problems related to output marketing: \$113.7 million minus \$13.7 million (12%) equals \$100 million.

The monetary value of increased agriculture output during the AMDA project lifetime by using improved quality agri-inputs and best farmers' practices is calculated at \$100 million over the 3-year IFDC/AMDA project lifetime. The figure of \$100 million is the aggregated direct contribution of the IFDC/AMDA project to the Azerbaijani agriculture sector at the farmers' level.

However, when dividing \$100 million by 750,000 Azerbaijani farming families (using quality agri-inputs) the resulting amount of \$133 additional income per farming family is considered very low. Nevertheless, it indicates the untapped potential of the Azerbaijani agriculture sector. In addition it provides very justifiable reasons for donors to continue financing and technically supporting projects in the agriculture sector.

When comparing the AMDA budget of \$3.1 million over a 3-year implementation period with the achievements and monetary contribution at macro level of \$100 million, it can be stated that the investment/return ratio of AMDA project justified the project expenses at all levels.

6.2 Networking, Information Exchange, Customer Marketing Relationship, and Cluster Building

Technology is always transported by “software” enabling either the transfer of technical know-how or organizational skills forming a frame within which transfers become perpetual. Such software is described as networking, regular information exchange, customer marketing relationship, and cluster building.

AKTIVTA members started exchanging information and goods among themselves. Practically, this resulted in improved trade relationships between importers, wholesalers, and retailers concerning distribution of agri-inputs. Demands are calculated for the next season and respective volumes of agri-inputs are imported. Regional retailers signed contracts with importers selling only brand products of these importers and, thus, became wholesalers in their home regions. These wholesalers in turn served as retailers in their working area and/or set up new shops at the retail level. In this way, a network of professional agri-input dealers developed.

Building customer marketing relationships from dealers to farmers was facilitated by field demonstrations and by dealers inviting farmers to their shops to introduce new agri-inputs or for solving problems faced by farmers in production.

Four marketing instruments were introduced to agri-input dealers: (a) product policy, (b) distribution policy, (c) price policy, and (d) communication policy. AKTIVTA plays an important role in forming strategic alliances and collaborations of independent agri-input companies resulting in reciprocal benefits such as saving of costs, decrease of risks, and creating synergy effects.

6.3 AMDA Cooperation With Other USAID Partner Projects

As foreseen in the USAID Strategic Plan 2004—2009 for Azerbaijan, the focus in the agriculture sector will be on developing the product market chain by integrating activities of the various actors (and supporting USAID-financed program such as AMDA, Rural Enterprise Competitiveness Program (RECP), and Rural Agriculture Business Development (RABD). AMDA/AKTIVTA supports the agri-input dealers, RECP (the processing industry), and RABD (the farming population). AMDA/AKTIVTA developed the scheme for cluster⁸ building relationships of USAID-financed partner projects for the tomato processing industry in the southern economic corridor of Azerbaijan. Introduced cluster strategies focused on (a) market linkages, (b) standards and certifications, (c) workforce development, (d) technology transfer,

⁸ Cluster building is understood as groupings of supporting and related businesses that are interlinked through customers, suppliers, and other relationships that work together to support, innovate, and upgrade the quality of a given product or service.

(e) infrastructure support, and (f) policy dialogue to enhance environment for businesses. A detailed report of this cluster-building scheme is available from IFDC Headquarters.

To this effect, meetings were held in the Lenkeran district, southern Azerbaijan, to link farmers, agri-input dealers, tomato-processing industries, financing agencies, and local authorities. Because these AMDA-initiated meetings were held in October 2004 and the AMDA project closed out in January 2005, future development of the tomato cluster depends now on RECP and RABD programs to implement respective agreements including active support for and by AKTIVTA.

Association Manager Qualifications:

- *Personnel leadership*
- *Ability to communicate*
- *Business acumen and marketing capabilities*
- *Personal integrity*
- *Charisma and decision-making ability*
- *Sense of responsibility*
- *Motivation and dedication*
- *Ability to think through the implications of decisions*

Usual problems:

- *Lack of business acumen*
- *Limited decision-making ability*
- *Limited foresight and ability to communicate*

6.4 AKTIVTA Operation

AKTIVTA is organizationally structured as follows. The members form the general assembly and elect regional vice-presidents and the executive council, including the President and vice-president. In addition, working committees are elected addressing technical issues such as government liaison, membership and ethics, technical development, finance and credit, and marketing. The executive council employs the General Director and one Senior Agronomist. Both the General Director and the Senior Agronomist are responsible for the day-to-day business of AKTIVTA. In December 2001, AKTIVTA opened their office in Baku.

AKTIVTA income is generated from membership fees and dues and other services provided for members. In addition, AKTIVTA works on a contract basis for other private companies and the public sector. There is stiff competition for private contracts in Azerbaijan. Most contract partners are donor-financed development projects.

AMDA did not try to sell association building at the start of the project. What was discussed was networking benefits and information technology transfer. After dealers recognized the benefits, they were taught how to make this a coercive operation by forming an association—a natural obvious conclusion. Many services were supplied to dealers: arranging and supervising trade missions, information gathering activities, introducing field demonstrations and on-farm-trials, organizing access to credits, and providing training on business skills such as marketing of inputs and outputs, gross margin calculations, balance sheets, income and cash flow statements to name a few.

The technique of transferring technology through the AKTIVTA members is appropriate for Azerbaijani conditions. Farmers in touch with the dealer community provide a most effective communication process. This means that AMDA funnels the new technologies through the dealer, whose self-interest is well served when he passes this to potential customers—the input buying individual farmer.

The association is member owned and focuses on self-interests. It acts only in the interest of the group and not of any individual or on behalf of a group of individual. It plays a major role in identifying training needs and conducting training for both dealers and their regular farmer customers. The fundamental focus of the association is skill building in the following

subjects: advocacy, lobbying, leadership, technology transfer, business development, enterprise management, and marketing.

Requisite qualities of board members:

- *High personal integrity.*
- *Readiness to take on responsibility*
- *Readiness to advance member interests in the public domain.*
- *Long-standing practical experience on group/association promotion.*
- *Keen motivation for and idealistic attitude to honorary activities.*
- *Decision-making ability.*

One of the basic roles of AKTIVTA is to be a pacesetter (for new products and services) and power balance (advocacy, lobbying).

6.5 Impact of AKTIVTA Advocacy and Lobbying

IFDC adopted a three-phased approach to addressing agricultural policy issues.

Initially the AMDA staff was involved in identifying key issues affecting the recovery and modernization of agribusiness. The project staff then organized meetings with AKTIVTA members to outline the strategy to address those issues.

In the second phase, with the contribution of project advisors, a position paper was developed addressing the issue of Seed Law amendments aimed at relaxing the flow of new seed technology and improving quality assurance enforcement procedures particularly at the retail level. In April 2003, key project staff and eight AKTIVTA members attended a workshop in Baku organized by IFDC. Participating were representatives of private businesses and governmental policymakers from the Central Asian Republics and Caucuses. Issues such as a quality control of agro-inputs and illegal business practices were brought to the attention of policymakers. In the spring of 2004, a roundtable on Seed Law was organized by the Policy Committee of AKTIVTA. The committee developed a policy action matrix, undertaking economic analysis, marshalling arguments, and advocating effectively using the media and political influence.

In the third phase, AMDA advisors in collaboration with Headquarters staff developed an Advocacy Agenda for AKTIVA mainly addressing seed and CPP quality issues. This document will serve as a medium-term guide to AKTIVA advocacy activities and commitments to lobbying on behalf of the agribusiness community in Azerbaijan.

AMDA and AKTIVTA started developing a dialogue with decision-makers that set the ground for significant breakthroughs on the policy front in the future. However, the project team and AKTIVTA leadership faced many hurdles in trying to promote agribusiness-friendly reforms. Azerbaijan authorities, influenced by powerful institutions, adopted hard line positions that made it difficult to conduct effective reform campaigns.

Even with the difficulties mentioned above, the project has helped set the stage for the future and prepared AKTIVTA for a leading role in the policy advocacy area.

AKTIVTA maintains contacts with identified individuals at the Ministry of Agriculture, the Ministry of Economic Development, and the Standing Agriculture Committee of the Parliament.

The AMDA project very positively impacted the networking aspects of ATKIVTA. Dealers meet and learn to work together; dealers and farmers meet to listen and learn from each other. Additionally, the trade missions have been important tools in increasing the combined knowledge of each region.

Communication by way of networking and information exchange received high attention by AMDA. This provided the foundation to set up the “software” for developing regular meetings directed at setting up value-added market chains, building customer marketing relationships, and clusters. Cluster-based initiatives are not a “quick-fix” solution. They involve major shifts in thinking and practice; hence, results take time.

6.6 Technical Innovations, Transfers and Technological Change

Farmers in Azerbaijan are rational and make effective use of their resources. They are relatively poor because their resources are very limited and because the knowledge is not available that permits them to produce the same output with fewer resources or a larger output from the same resources. AMDA/AKTIVTA stressed the importance of new products, processes, and forms of organization or production to agri-input dealers and farmers alike. One example is the introduction of imported Israeli greenhouse technology including drip irrigation used for fertigation of plants.

Up to January 2005, seven greenhouses were erected covering a surface of 500 m² each. Only the “intelligent plastic covers” and the drip irrigation unit providing fertigation were imported from Israel. The greenhouse skeleton and heating units were purchased in local bazaars. In addition, some 18 drip-irrigation units (covering 1,000 m² each) were imported and sold to farmers for use in open field production. Demand for both greenhouses and open field drip irrigation units increased after successful introduction albeit at a lower level than expected.



Greenhouses were erected in three AMDA working regions to demonstrate the superiority of imported technology. A great number of technical meetings were conducted at the village level with dealers and farmers. Moreover, at the national level, training addressed respective research stations active in the field of irrigation and greenhouse development. Dealers with shops in regions where greenhouse production plays an important income-generating role were trained in the management of greenhouses and appropriate use of newly introduced irrigation techniques, high-yielding seed varieties, fertigation, and pests and disease control measures.

Based on the training, newly introduced fertilizers became a regular, commercial seller by respective AKTIVTA dealers. Yields increased and farmers doubled their production output.

What applied to the introduction of greenhouses and drip irrigation units applied as well to the introduction of new kinds of fertilizers, seed varieties, and CPPs. Next to the introduction of the hardware, the most difficult work was to demonstrate the technical change such quality inputs are embedding. This is to say that the management (or farmers' best practices) of correctly applied inputs is the key to successful introduction and promotion. Farmers in Azerbaijan, as in other post-socialistic countries, learn much easier from practical implementation compared with theoretical training. However, this approach requires longer periods of time including frequent field visits and pre-supposes respective provisions in the project budget. A meeting in itself or conducting training is not a well-defined quality indicator. The quality of meetings and training derives from the adaptation of what has been presented to dealers and farmers. If demonstration practices are being applied by farmers, the true value of meetings and training is shown.

AMDA project results of increased imports for agri-inputs and at crop level, the introduction of best farmers' practices, particularly for ware potatoes and apples being sold to export markets, are indicative of the true impact of the USAID-financed AMDA program.

The introduction of new agri-inputs and respective transfer mechanisms are the most important activities raising the economic interest of dealers and farmers alike. The technological change embedded in the new agri-inputs is responsible for a multiple production output making farming economically viable.

7. Lessons Learned

Lessons learned are understood as general and specific events experienced by IFDC/AMDA during the process of project implementation.

After a history of a socialist economic order, the readiness of the rural population to form any kind of group or association is limited. This is particularly so where the material benefits of an association cannot be demonstrated directly or fast enough. There is marked mutual distrust and a great risk of differences over material and financial issues based on this. Willingness to cooperate and basic mutual trust must rate as essential for any group development. The efficient implementation of a group promotion scheme has much to do to allay distrust, build confidence,

and institutionalize material benefits for each member in the long term. Because trust cannot be generated on demand and can only grow in daily intercourse over a long time, approaches to promote producer associations must be seen as a long-term undertaking.

Lesson 1

The rural agri-input companies suitable for setting up an association often lack an adequate appreciation of the way groups function. This applies in particular to small and medium enterprises, the main target group. Fostering a sense of solidarity and laying the foundation for trustful cooperation call for long-term support and advice in a holistic approach.

It is helpful at an early stage of project implementation to inform local decision-makers about the intended development of agri-input associations and assimilate these into the active work. This is done less in anticipation of receiving government assistance, but more to avoid political irritations with adverse consequences for the work of establishing associations.

Lesson 2

Informing local decision-makers and allowing them to contribute helps avoid political irritations and adverse influence.

The development of a juridical by-law (statute) plays a prominent role during the first stage of the association-building process. It is crucial that the by-laws clearly describe the tasks, organizational form, and competencies of individual associations' organs. Many juridical frame conditions, however, are not developed to that extent.

Lesson 3

Drafting an unambiguously worded statute with a clear allocation of functions is the basis for every association. Allowance must be made for adjustments and amendments in line with changing framework conditions. As legal provisions are often worded in unclear terms, it is advisable to cultivate friendly relations with the relevant functionaries.

It cannot be taken for granted that agri-input associations are viewed as service-based organizations run for the benefit of their members. Developing associations is not just about laying the economic and organizational foundation, but also entails fostering an awareness of the need for mutual trust, democratic decision-making procedures, and bearing joint responsibility.

The majority of enterprises with a basic interest in associations accept the idea of and the need for cooperation. As a rule, the motivation for active cooperation is economic-oriented. Because economic success does not come at once, member turnover due to disappointment is unavoidable. Only in the course of economic success do membership structures consolidate and members acquire self-motivation.

Lesson 4

As a rule, numerous small and medium agri-input enterprises are interested in founding an association. Since the motivation normally originates from economic interests and economic success is not immediately forthcoming, member turnover in the initial stage is common and may cause organizational difficulties. Only with evident economic success does a consolidation of collaboration arise.

If success of an association is defined as increasing requests for memberships, higher demand for products and services, a certain level of satisfaction, and a balanced budget, then the economic development attains decisive importance. Such advancements are only possible if members show a certain development potential. Principle elements are a solid financial base, a high self-motivation for collaborative progressing, and products with a realistic market potential. Agri-input companies not fulfilling these pre-conditions are excluded from becoming a targeted association member. These companies do not have a development potential and are unable to contribute substantially to the association.

Lesson 5

Target groups of an association are companies showing an existing development potential. Companies without an economic base and low self-motivation are not qualified. Big companies are normally not dependent on association membership for economic development.

Economic areas of intervention are defined through a market analysis. The development of an association is only possible if activity areas can be identified showing a successful participation in respective markets. Market-oriented sales of agri-inputs are addressed to identified niches and realistic demands⁹. International quality standards play an ever-increasing

⁹ General demand should not be interpreted as actual demand. It should be differentiated between nominal demand, potential demand, and real demand. Whereby real or realistic demand describes a situation where the company/individual does buy the

role. Conclusively, trading and production activities are oriented more and more at internationally accepted standards and not to domestic requirements. Agri-input purchasing association members should take advantage of a high real demand and economies of scale purchasing at lower prices. Successful product marketing pre-requires the ability and sensitivity of a marketer. These competencies of client acquisition and client-oriented services have to be learned. Selling abilities are in direct relationship with the employment of sales staff.

Lesson 6

Potential business activities are areas of common purchase and sales of products. Market niches have to be identified by a market analysis outlining potential obstacles of intended sales. A product marketing campaign will only be successful if the product serves a real demand and sufficient knowledge is available to professionally advise and serve farmers.

Sufficient start-up capital for developing an association is an essential requirement. Normally, such start-up capital is not readily available (see Lessons 4 and 5) and should be provided externally based on a sound business plan. The goal of every association is to generate sufficient income to cover all running costs, build reserve funds, and in the long term achieve self-financing. Such self-financing will realistically be achieved only after a mid-term period of several years (minimum 5 years).

Lesson 7

The long-term stability of an association requires self-financing. This can be achieved by paying respective membership fees and dues or income generating services for members. Financial independence cannot be expected during the first years. Therefore, start-up capital and loss coverage is required for the first 3 years.

Qualified staff for association management and marketing is very difficult to find in East European countries. The educational level in economics, human resources, organization, and sales techniques is usually very low as experienced in Azerbaijan. Training and education in these areas are an integral part of every development project. Next to the formal education,

offered product or service; e.g., the nominal demand for fertilizer use in Azerbaijan is estimated at 500,000 mt/annually; the potential demand is estimated at 120,000 mt/ annually; and the real demand in 2005 was 70,000 mt/annually.

however, the personal integrity and reliability of leading positions are essential as is the willingness and motivation to implement new practices.

Lesson 8

A very clearly defined demand profile, selection, and training for leading positions in essential management positions is responsible for the success of associations. It has to be considered that success of training relies on personal pre-conditions such as openness and willingness to implement new practices. Personal integrity and reliability are other requirements.

The relatively low technical and economical educational levels of association members are often obstacles for a market-oriented and micro-economic success of individual businesses. Governmental departments are very often not in the position to efficiently implement extension services and advice. This is a potential working area for agri-input associations. Advisory work *per se* is not recognized as a monetary good with a financial value and, therefore, is rarely paid for. The success of extension work is rated and measured by increasing income. In contrast, accessing material and financial gains advice is paid for. This is to say, that extension work has to be financed indirectly. The relationship of selling higher volumes of agri-inputs and extension work is very effective.

Lesson 9

Extension work and advice are essential parts of agri-input associations. The importance increases continuously as government extension services are not matching present demands for production techniques, agri-inputs, farmers' best practices, and quality demands of respective markets. Extension work is hardly being paid for by target groups. The relationship between extension advice and increased agri-input sales provides the ground to finance extension and increases the efficiency of transferring innovations.

IFDC/Agri-Input Market Development in Azerbaijan (AMDA) produced papers with analysis and recommendations and held meetings with decision-makers in the private and public sectors. This program achieved the AMDA objectives of encouraging and enabling effective trade association advocacy and building capacity so that private agribusiness could develop and advocate appropriate policy reform initiatives.

Lesson 10:

Reliable information about the economic efficiency, profitability, and competitiveness of agricultural production activities and enterprises and the factors and policies that constrain them is essential to design policies and development assistance projects that promote agricultural development and economic growth.

Following is a summary of IFDC's best implementation practices for agri-input dealers associations:

- Successful associations start off with objectives that are specific, limited in number, and achievable in a reasonable time frame.
- Associations that have a clear vision and mission and highly motivated members in a socially cohesive structure are more likely to be sustainable.
- The most sustainable associations are those with a primary focus on prospective members' economic gain. Economic benefits should, therefore, be an association's main objective.
- To achieve sustainability, a new association needs to develop incrementally—resolve startup problems, establish relationships with external entities, consolidate leadership, and achieve and maintain product standards.
- Effective associations require cooperative partnerships with government, donors, NGOs, and motivated partners.
- Soon after formation it is important to change the focus of new members from short-term gains to long-term benefits. Members must be encouraged to think of themselves as resource managers and not beneficiaries of donors, government, or NGOs.
- Communication and transparency significantly improve with the public display of association information such as a profit-and-loss statement, balance sheet, membership numbers, organizational structure, officers, charter, and objectives.
- Business and marketing training helps members participate in the basic routines of management, marketing, and finance. Assistance in these skills is a priority for improved association sustainability.
- Rotation of leadership broadens an association's membership support.

- The importance and potential impact of advocacy increases in the higher tiers of an association and is one of the main justifications for national-level organizations.
- Effective advocacy can only take place in a political environment that does not cause associations to fear government retaliation.
- Effective networking is critical to successful advocacy.
- Achieving economic and managerial sustainability is a requirement for effective association advocacy. Members' needs and concerns—not donors' perceptions—should determine support for advocacy.
- External support must focus on leadership training that can be achieved through extensive training in management, accounting, marketing, and productivity improvement.
- A market analysis for products is required to determine real demand. Timely and relevant market information is needed.
- The need for effective value-added chain linkages increases as the importance of input buying and especially output marketing increases.
- Cluster-building activities are becoming important in view of increasing competition and competitiveness.

Finally, selected recommendations are provided for future AID programs in Azerbaijan.

1. Association Registration: it is recommended that future programs be tied to the removal of obstacles to registration of new associations and other non-profit organizations. This has already been mentioned by evaluation teams of previous projects in Azerbaijan across the various economic sector development programs.
2. Synergy effects between USAID partner projects can be improved to achieve multiple gains, increases in turnover, and substantially higher financial returns for beneficiaries.

Appendix 1. Project Planning Matrix 2004/2005

Overall Goal: SO 1.3: Accelerated Growth and Development of Private Small and Medium Enterprises in Target Areas.	Verifiable Technical Indicators	Source of Indicators	Important Assumptions
Goal: Sustainable agricultural productivity increased and rural poverty reduced in selected rural regions through private agri-input entrepreneurs association.	Farmers applying recommended agronomic practices realize a higher yield per hectare compared with others. Development of association has a positive effect on increased availability of agri-inputs. <i>Note: goal indicators describe national trends</i>	⇒ Annual results from sample plots. ⇒ Customs office data and AMDA dealers, survey.	
Project Purpose: Agri-input dealers are organized in an association and develop lasting up and down stream sector linkages.	1. National private membership association developed and registered. 2. At least four issue-based working committees are organized and provide advocacy. 3. Sales of agri-inputs are doubled in volume between 2002 and 2005. 4. Dealers gain access to credit loaned \$560,000 in 3 years. 5. Market responsiveness of enterprises increased in technical, marketing, and agronomic fields by adopting private sector extension approach.	⇒ Reports by AMDA + Ministry of Justice. ⇒ Reports of association working committees. ⇒ Annual survey of association members on business activities. ⇒ Technical AMDA reports.	Complementary activities in the field of farm output marketing are supported by GoA or donor projects. Public policies promote registration of associations.
Results: 1. Private membership association for agri-input dealers developed and organizational base solidified.	1.1 At least 80 agri-input dealers join the association as members. 1.2 Association Executive Council and President elected. 1.3 Association strategic plan and budget approved by members.	⇒ Quarterly/annual AMDA/ association reports.	Developing an association is of high priority for agri-input dealers.
2. Working committees on selected issues are set up, in operation, and provide policy statements.	2.1 Four working committees are set up and start advocacy activities. 2.2 Every working committee develops one annual policy statement. 2.3 Ministry of Agriculture collaborates with association as representative of the private sector.	⇒ Reports from working committees. ⇒ Ministry of Agriculture.	Willingness of agri-input dealers to provide sound policy statements does not change significantly between planning and implementation.

Overall Goal: SO 1.3: Accelerated Growth and Development of Private Small and Medium Enterprises in Target Areas.	Verifiable Technical Indicators	Source of Indicators	Important Assumptions
3. Access of loans granted to agri-input dealers and self-investments in physical infrastructure increased	3.1 Number of loans granted to association member agri-input dealers and non-members. 12/02 12/03 12/04	⇒ Reports from financing agencies and AMDA. ⇒ Annual survey of association members.	Credit agencies grant loans to agri-input dealers, farmers, and processors.
	3 6 12		
	3.2 Amount in US\$ on self-investment in physical infrastructure. 12/02 12/03 12/04 60,000 90,000 100,000		
4. Dealers responsiveness for demand-oriented products raised	4.1 Doubling the baseline volume or value of commercially traded fertilizer, HYVs, and CPPs over the project period. 4.2 Number of new agri-inputs introduced. 12/02 12/03 12/04	⇒ Annual survey of association members. ⇒ Technical AMDA reports. ⇒ Annual reports from Customs Office.	Farmers are gaining increased access to product output markets.
	2 4 4 <i>(calculation of quantitative targets based on farmers' demand)</i>		
5. Agri-input dealers business skills are raised responding to supply and demand oriented markets	5.1 Six trade missions and study tours conducted. 5.2 At least 10 training courses conducted. 5.3 Dealer group approach to importers established.	⇒ AMDA reports.	Cooperating agri-input dealers remain active in the field of input supplies.
6. Dealers adapt private sector extension service approach by conducting demonstrations, introducing innovations, and publishing/broadcasting respective messages.	6.1 Fifty technical publications and 15 TV broadcastings. 6.2 Introduction and adaptation of private sector extension service. 6.3 Number of agronomic meetings/open field days/on-farm trials. 12/02 12/03 12/04	⇒ Newspaper articles, TV-broadcastings. ⇒ AMDA technical reports. ⇒ AMDA dealer survey. ⇒ AMDA reports.	Farmers are having increased access to credits and farm output markets.
	10 30 40 6.4 Dealers sell agri-inputs to 30,000 farmers. 6.5 Progressive farmers increase yields by 20%. 6.6 Four greenhouses are set up and in operation. 6.7 Ten training courses on greenhouse operations and drip irrigation.		

Appendix 2. Success Stories and Public Relations

Baku. Sun, July 23, 2003

Wheat Demonstration Program

Sheki, an ancient region of Azerbaijan, is inhabited by 159,900 people—most of whom are engaged in the agricultural sector. Taking into account that more than 60% of the 55,000 hectare cultivable area is mainly used for wheat production, we can gauge the important role wheat plays in the lives of Sheki farmers. According to statistical figures, the average yield per hectare in Sheki is 1.62 mt. This is very much below the available potential. The reasons for low productivity vary, starting from improper seed selection, inadequate soil preparation, insufficient pest and disease control up to low fertilizer application rates and harvesting losses. These are common problems farmers in all Azerbaijani regions face.

In order to assist farmers identifying solutions to these problems the IFDC/AMDA project conducted a series of demonstration programs for different agricultural products

(wheat, potato, apple, etc) in several regions of Azerbaijan including Sheki. The Azerbaijan Agri-Input Market Development (AMDA) project is a 3-year project funded by USAID and implemented by the International Fertilizer Development Center (IFDC). The aim of the demonstration programs is to develop packages of farmers' best practices (new farm techniques) and to disseminate the results to the farming community via the dealers of the agri-inputs trade association (AKTIVTA) and media.

The wheat demonstration program in Sheki was conducted in the field of Elxan Ilyasov. Elxan is a Sheki farmer and owns 6 ha of land. On 1.5 ha IFDC/AMDA specialists tested four wheat varieties through applying three different fertilizer rates for each of them. The seminar on the result of this program started with the field visit where more than 65 farmers and dealers could appraise practices and the pros and cons of the demonstration field. During the visit different opinions were expressed. A Sheki farmer, Hasanov Aliovsat, was not satisfied with what he saw. "I think that from 1 ha on average 3 mt will be harvested. I personally get 2.5 mt/ha without fertilizer application that is without additional cost." But everything is not as simple as it seems to be at first glance.

After the field visit, IFDC/AMDA specialists talked about IFDC international activities as well as the AMDA project in Azerbaijan explained the role of demonstration programs, and finally presented the results in figures and economic analysis of the results. The participants witnessed that through applying the farmers' best practices, the farmers can increase their net income from 289,000 AzManat/ha up to 2,114,000 AzManat/ha. Yes, the farmer has to purchase required fertilizers such as NPK or TSP for high prices, but these costs at the end are justified by a higher return (gross margin). The high costs on quality seed and fertilizer and proper field management are outweighed by a higher income.

In the demonstration field three varieties produced by Tartar Research Station were tested with NPK, TSP (Triple Super Phosphate), AN (Ammonium Nitrate) only, and without fertilizer application. Participants were impressed by the significant differences between these variants; for example, the productivity of Mirbeshir 128 variety was 5.38 mt/ha with NPK, 3.96 mt/ha with TSP, and 2.84 mt/ha with AN. At the same time the difference in number of wheat grains in the ears and the grain weight in relation to fertilizer applications was demonstrated. The result is a qualitative better grain for flour production and baking purposes.



Agri-input dealers and farmers from the Sheki region of Azerbaijan, examine different grains closely at the wheat demonstration field. (Courtesy Photo)

At the end of the seminar, participants asked numerous questions. Next to technical growing aspects, most participants were interested in production costs and dealing with capital shortages. A scheme was drawn for farmers to explain that lack of money for qualitative inputs results in low yields as well as reduced yields by no or improper application of fertilizers and pesticides. Farmers should break this chain. One of the solutions to this problem advised by IFDC/AMDA specialists is to reduce the cultivated area and spend the saved money on fertilizers. Thus, the yield harvested from fertilized fields will earn a higher income comparing to that from unfertilized fields. The next step should be to invest the earned and saved money to expand the area under proper field management and application of qualitative inputs.

“I knew that fertilizer increases the yield, that is natural, but I did not know that the money spent on fertilizers can bring 6–7 times more income” said Aliovsat while leaving the seminar.

The seminar raised high interest among farmers. One could notice the eager discussions continuing even after they left the seminar room.

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Baku Sun, August 2004

Business in Brief

The Agro-Input Market Development Project in Azerbaijan is a 3-year project funded by USAID and implemented by International Fertilizer Development Center (IFDC) since February 2002.

The purpose of this project is to provide technical assistance to agro-input dealers in building network systems that promote and support agribusiness development, specifically trade associations, sources of capital, policy reform, and technical advice.

But besides the activities implemented to achieve the project aims, IFDC also carries out an activity that is not included into the project frame, but has a great value for the project as well as for the society. With the donation from U.S.-supported agency, World Learning, the sum of 108,500,760 AZM, and support from IFDC and USAID, the project “To develop the fruit orchard and vegetable garden in Lenkeran Orphanage” was designed by IFDC and carried out in collaboration with Jalilabad Agro Business Center (daughter organization) for the orphanage named after Osman Mirzoyev in Lenkeran city. The main purposes of the project are to: (a) help the orphanage become self-sufficient in food supply: the orchard and garden will provide the children with fruits and vegetables rich with vitamins and minerals that are necessary for health; (b) provide the children with agricultural and ecological knowledge, help them to acquire the professional skills and hands-on experience in horticulture and vegetable-growing; (c) help the children become hard-working, love nature, and not to feel isolated.



The children at the orphanage are happy to have their own orchard, where they can grow and pick their own fruit.

Since the project started in August a huge amount of work has been done on the plot belonging to the orphanage, which could not be used for gardening because it was always covered by rainwater. After the plot was drained and cleaned from bushes and rubbish, 151 trucks brought fertile soil to level the area.

A drainage canal was laid around the garden. For irrigating the orchard and the vegetable garden, a water well was drilled and a water pump installed. Some 357 apple, pear, quince, cornel, walnut, mandarin, persimmon, and plum trees were planted.

In addition, 240 decorative trees were planted at the entrance of the orphanage and around the garden. The area for the vegetable garden has been prepared for planting. Seeds, fertilizers, and pesticides were provided by IFDC.

One hundred eighty-one children between the ages of 3 and 18 years live in the orphanage. Some 80 children were chosen according to their interests and energies to participate at the lessons and training conducted by the invited agronomists on different topics such as horticultural establishment, soil and plant preparation, choosing the seedlings, tools application, etc.

In November 2003 U.S. Ambassador, Mr. Reno Harnish, visited the orphanage in Lenkeran and appreciated the project activities at its true value.

If you have any further questions or would like to get detailed information, please contact Kenul Ismayilova at 983 273/ 981 528/ 984 136.

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Liman: World First Class Drip Irrigation Unit Introduced by USAID-Financed IFDC/AMDA Project

One of the IFDC/AMDA (Agri-Input Market Development in Azerbaijan) project purposes is the transfer of international standards in agriculture including technical innovations to increase output productivity. This is being accomplished by collaborating with Azerbaijani agri-input dealers who in turn provide advice to farmers purchasing agri-inputs from dealers' shops. Numerous transfer activities have been conducted concerning best farmers' practices in wheat, potato, vegetable, and apple production since the project started in February 2002. IFDC plays a pioneer role supporting the Azerbaijan Agri-Input Dealers Association (AKTIVTA) in advising farmers to utilize world standard drip irrigation creating economic and technical viable opportunities to test drip irrigation and thereby demonstrate its efficiency in the Azerbaijani environment. All IFDC/AMDA activities are financed by the United States Agency for International Development (USAID).



*Nureddin Khasiyev (first from the left) together with IFDC/AMDA specialists installs the drip irrigation unit in his field.
(Courtesy Photo)*

Nureddin Khasiyev is a farmer from Lenkeran, Liman district. Next to his Kiwi orchard he owns an area of 0.2 ha land composed of sandy soil that until now could not be used for growing plants due to the infertile soil structure. Sandy soils are unable to keep moisture (water) and thereby negatively influence the supply of nutrients (N, P, K and minerals) to the growing plants. In 2003 IFDC/AMDA conducted workshops introducing drip irrigation technology manufactured in Israel. Nureddin decided to be the first farmer testing this drip irrigation technology on his plot that previously was not used for cultivation due to the infertile soil. With technical assistance from IFDC/AMDA, Nureddin employed the irrigation system on a surface of 0.1 ha planting vegetables such as tomato, cucumber, pepper, and eggplant. The results exceeded the expectations. Not only that the "infertile" plot could be used for production, but each vegetable gave a high yield.

After the demonstration Nureddin bought the drip irrigation unit and added a second unit. Now he cultivates tomatoes and cucumber on 0.2 ha of land that previously was thought unsuitable for agricultural production. The results are twofold: first, unproductive land was put back into the production cycle, and, second, the vegetables grown produced under good farm management yields outweighing the production costs. IFDC contributed by introducing technical change in production and best farmers' practice on vegetables growing using drip irrigation.

During the workshops conducted by IFDC, Nureddin used a new type of fertilizer that is dissolved in water before the water irrigates the plants. This process is called fertigation: fertilizing and irrigating at the same time. This allows controlling nutrient supply to all individual plants resulting in high yields. Nureddin learned theoretically and practically the advantages of this production system:

- a) Nutrients for plants are completely dissolved in the irrigation water.
- b) The equal distribution of the nutrient-containing irrigation water to the plants allows plants to produce high yields. In this controlled way, no crystallization of minerals or salts occurs in the soil as it can appear in flood irrigation and have a negative effect on both soil and plant growth.

- c) Though the complex fertigation fertilizers are more expensive compared to ordinary fertilizers, the investment in such agri-inputs is repaid due to the high fertilizer efficiency resulting in high yields and quality products.
- d) The drip irrigation system reduces time spent to irrigate fields. This results in cutting production costs by using less water and lower labor input.
- e) Drip irrigation allows utilizing sandy soils for plant production, cultivating vegetables achieving a high yield, reducing production costs, and simultaneously increasing income.

Thanks to his willingness to learn, motivation, and risk-taking, Nurredin gained a great deal of know-how and experience while participating in the demonstration with IFDC/AMDA. He is by now a model farmer and many farmers visited his farm to learn from his experience.

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Baku Sun, May 28, 2004



Agri-Input Market Development in Azerbaijan

IFDC/AMDA Taught Farmer Matlab How to Solve Problems in Potato Growing

Matlab Mamedov is a farmer living and managing his farm in Jalilabad. He owns 15 hectares of land and mainly grows potatoes. Matlab used to harvest 23 ton/ha potatoes, which was much below potential, and the quality of products was low. While growing potatoes he faced problems such as potato diseases, low quality, and weak effect of fertilizers. Actually almost all farmers from his and neighboring regions growing potatoes had the same problems.

When IFDC/AMDA started a potato demonstration program in Jalilabad aimed at developing packages of best farmers' practices it raised the interest of many progressive farmers and more than 130 farmers participated at these demonstrations.

Due to the recommendations provided by IFDC/AMDA specialists, Matlab could increase the productivity to 35 tons potato per hectare. This is 12 tons/ha over the previous yields and simultaneously the quality of potatoes harvested improved. The recommendations such as (1) storing and sprouting the seeds properly, (2) applying TSP (Triple Super Phosphate) over SSP (Simple Super Phosphate), (3) applying best farmers' practices, and (4) implementing a disease control program were applied to achieve the productivity increase and improvement in quality.

"Treating potato seed with fungicides before planting was really something new for me. But if thinking, actually even one infected tuber often used to cause the spreading of disease in the field after planting"



Due to the recommendations given by IFDC/AMDA specialists, Matlab could increase the productivity from 23 tons to 35 tons/ha.

But the greatest success of this program was the introduction of TSP fertilizer to the farmers who used to apply old "SSP fertilizer." This old fertilizer contained heavy metals and usually caused the contamination of soil and products. As the active matter in SSP was 2%-5%, the farmers used to apply 3 ton of this fertilizer per hectare and it had a negative effect on product quality. Moreover, the transportation costs were also very expensive. During the demonstration program,

TSP was applied in order to show to farmers its effectiveness. It is worthwhile to mention that most of the farmers in the southern region were unaware of TSP. Taking into account that this fertilizer contains 47% active matter, its application rate is 100 kg/ha, which is 30 times less than that of SSP.

As a result of TSP application in combination with AN, Matlab's gross margin per hectare increased to \$2,719 compared to application with SSP+AN at \$1,115.

The seminars and demonstration programs related to TSP application were conducted by IFDC/AMDA in eight regions for 220 farmers and dealers, and some 20 tons of TSP were distributed to the farmers during 2002. According to the surveys, until May 2004 some 2,111 tons of TSP have been sold to farmers by dealers. This newly established TSP trade in Azerbaijan and its increasing volume once more demonstrates the positive effect of this fertilizer and farmers' acceptance of it.

As for Matlab he is by now a model farmer and many other farmers visited his farm to learn from his experience.



Agri-Input Market Development in Azerbaijan

Fertilizer Application Increased Apple Production in Guba Region, Azerbaijan

In Azerbaijan the area under fruit tree orchards is about 77,000 ha or 4.80% of the arable land. The respective acreage for the northern Khachmaz District totals to 5,300 ha or 15.60% of the total fruit tree orchards. In Arzu village the USAID financed and IFDC the implemented project “Agri-Input Market Development in Azerbaijan” (AMDA) implemented a balanced fertilizer application demonstration in apple orchards.

Since March 2002 IFDC has been actively promoting farmers’ best practices in apple production in Guba and Khachmaz regions. The aim is to increase productivity and introduce improved agronomic practices. Demonstrations on balanced fertilizer and environmentally sound pesticide use were implemented to increase productivity and quality of apple production. As a result apple orchard owners increased their competitiveness and maintained their role as primary apple suppliers for the domestic and exports markets in Russia.

Through the IFDC extension program aimed at supporting private agricultural input dealers and farmers, Mr. Nazim Mamedov’s apple tree orchard was selected for implementation of a fertilizer demonstration during the period January to September 2003. The 1.30 ha orchard demonstration was comprised of four different fertilizer applications in order to document differences between “old and new” practices, micronutrient fertilizer applications, and improved management to demonstrate increases in yields and quality production.

The average yield increase obtained by using complex fertilizer NPK and AN+TSP+K were 33.0 mt/ha and 49.3 mt/ha, respectively, compared with those lots where only AN fertilizer was applied. The average yield per tree reached 105.7 kg. The yield of trees receiving the NPK application was in average 119% higher compared to the yield of trees receiving only AN. In addition, a significant difference could be seen in the larger size of apples harvested.

The Gross Margin calculated from those plots with NPK use (complex fertilizer) amounts to \$7,631/ha, from plots with AN+TSP+K it amounts to \$6,627/ha, and in plots with AN only it amounts to \$2,667/ha. The additional expenses in fertilizers for plots with NPK comparing with the plots with AN only is \$210/ha, but the difference in gross margin is 4,964 \$/ha.

These results clearly indicate that farmers using appropriate fertilization and disease control realize a higher income. According to these results it is recommended to use complex fertilizer such as NPK or the combination of AN+TSP+K in the future.

Mr. Mamedov was very satisfied with the results achieved and many of his fellow orchard owners and agricultural input dealers participating at the IFDC organized open field expressed their willingness to apply the production recommendation in the future.



Agri-Input Market Development in Azerbaijan

Improvements in Yield, Quality, and Economic Returns by Applying TSP—The New Fertilizer Introduced in Azerbaijan

After the collapse/breakdown of the former Soviet Union and the transition from the centrally planned to free market economy, serious problems arose in Azerbaijan with the purchase of agri-inputs. Modern inputs are not commonly used due to (a) insufficient experience of today's farmers and dealers, (b) the missing downstream marketing link as well as (c) the lack of economic understanding between improved inputs and respective gross margin calculations. Therefore, many farmers apply a low cost input strategy to avoid production risks.

The production of phosphorus (as SSP 12% P_2O_5) and potassium (as K_2SO_4) fertilizers in the country stopped. Ninety-five percent of the fertilizer used in Azerbaijan is ammonium nitrate (AN). Everywhere soils are deficient in this critical nutrient whose absence limits both quantity/yield and quality of crop production.

According to Agri-Input Market Development Project (AMDA) surveys during 2002, limited amounts of fertilizers were applied: N=20,000 mt, P=1,000 mt, K=1,000 mt.

Since March 2002 IFDC/AMD has actively promoted farmers' best practices in crop production in the Ganja, Sheki, Ismaili, Masalli, and Guba regions. The aim is to increase productivity and introduce improved agronomic practices.

The major target group for dealers is the 20%-25% of farmers with a commercial production orientation. To foster relationships between dealers and these farmers, incentives have to be created and the economic superiority of modern inputs demonstrated. Because increase in yields is often the result of changing more than one production variable, dealers need to receive additional training on the importance of inputs improving the present agricultural practices.

Regarding the aforementioned reasons, the IFDC project implemented a set of seminars with dealers and progressive farmers and explained the benefits of using TSP (Triple Super Phosphate). In addition to the application of well-balanced plant nutrition, technical training on the impact of such fertilizers has to be demonstrated next to the availability of such fertilizers. Agricultural input dealers have to play an important role in the future as suppliers of improved

inputs and act as an information source for innovations. Product and product information are inseparably intertwined. To pursue this marketing strategy, a TSP on-farm trial in wheat and demonstration fields in wheat, potato, and apples were implemented. Also, 1,000 leaflets were published and distributed among dealers and farmers.

IFDC in collaboration with selected dealers in eight regions purchased 20 tons of TSP and distributed it to 200 farmers (Tovuz, Shamkir, Goranboy, Sheki, Ismailli, Jalilabad, Masalli, Lenkeran, and Guba) for on-farm trials. In addition, TSP was applied in 10 demonstration fields in wheat, potato, and apple. Farm-level demonstrations are essential to stimulate demand.

The goal of the on-farm trial was to transfer updated technology especially the effect of TSP application in wheat production and demonstrate at the farmer's level the increase of quality production by changing one variable factor only. TSP has a positive impact on root and grain development. Farmers like to see how a new idea works, and what effect it can have on increasing their crop production. Both purposes can be achieved by means of an on-farm trial. The trial was conducted on the farmer's field and under the farmer's own management. Farmers have more confidence and trust if a demonstration is held on a neighboring field or if a new practice is shown by a fellow farmer. The more farmers are directly involved in the whole demonstration process, the greater is their self-confidence and readiness to learn.

The aim of the trial was to promote the use of TSP in wheat production provided by dealers to their farmer clients. This should demonstrate to farmers that dealers are the source of quality information and inputs.

The results of the TSP on-farm trials indicate wheat yields ranging from 2.7 to 3.1 mt/ha (average 2.44 mt/ha) when TSP is applied. The average yield for fields without TSP application was calculated at 1.85 mt/ha ranging from 1.4 to 2.6 mt/ha (Annex 1).

The average yield increase obtained by using TSP was 0.59 mt/ha compared to those plots without TSP application. This average yield increase when valued at the current market price for wheat in Azerbaijan at 550,000 Manat/mt or \$112 resulted in an increased return of 325,000 Manat or \$65.90. The additional TSP costs were only 100,000 Manat/ha or \$20.40.

This result indicates farmers' interest applying TSP in future. Out of the 200 sample farmers, 76.1% answered that TSP "had good affects on wheat yield," and 91.1% of farmers would like to use TSP in the next season (Annex 2).

A significant difference was found between TSP and SSP use in wheat demonstrations. In plots where TSP was applied, the gross margin was \$522/ha, whereas for those plots grown under the traditional SSP the gross margin was \$325/ha. In addition TSP showed very good results in potato and apple demonstrations.

As a conclusion we can say that significant improvements in yield, grain quality, and economic returns are possible using TSP (part of the best management practices).

As a result of the positive effect of TSP application in different crops during 2003 such as wheat and potatoes, farmers and dealers have started to trade and sell TSP. Until September 2003 dealers had already sold 260 mt of TSP to farmers. It can be concluded that with the assistance of IFDC/AMDA a new fertilizer product was introduced in Azerbaijan and the first cornerstone laid for improved fertilizer use achieving higher yields by farmers.

Baku Sun, May 2004



Agri-Input Market Development in Azerbaijan

AKTIVTA Members Develop Business Relationships at ChemAgro Expo in Moscow

In an open market economy, every businessman is continuously interested in improving his business and seeks ways to increase his competitiveness in the market. This requires timely information about all relevant innovations, international and national market situations, competitors, and at the same time good and firm business relationships. The USAID-financed and IFDC-implemented Agri-Input Market Development Project in Azerbaijan (AMDA) closely collaborates with members of the Azerbaijan Agri-Input Dealers Association (AKTIVTA). Trade missions and study tours are an important opportunity for Azerbaijani agri-input dealers to stay abreast on most of the recent information concerning new technology, knowledge transfer systems, products, prices, and creating business relationships with international suppliers. So far trade missions have been conducted to Georgia, Turkey, Israel, and Russia.

This time AMDA organized a trade mission for ten association members participating at the ChemAgro Expo 2004 in Moscow, Russia. The main aim of the trade mission was to learn about new fertilizers, seeds, plant production products (CPPs), and related agriculture equipment. In addition, direct contacts with potential manufacturers were developed.

AKTIVTA member Ilham Hajiyeu took this opportunity to create business relations with the following companies:

- Zelyonaya Apteka Company that produces plant protection products.
- Avgust Company that produces grow stimulators for plants auxesis and water-soluble micronutrient fertilizers.
- Semko Company that produces vegetable seeds.

Mr. Hajiyeu purchased 10 different types of CPPs from Zelyonaya Apteka Company, 15 grow stimulators from Avgust Company as well as tomato, cucumber, eggplant, and other vegetable seeds from Semko Company for US \$10,000.

Some of these products are new for Azerbaijani farmers; however, they appreciated the product availability and are excited to utilize them to increase their farm output productivity. By visiting the ChemAgro Expo, Mr. Hajiyeu was able to develop new business relationships increasing his supply chain and extending it for the benefit of the Azerbaijani farmers.



Agri-Input Market Development in Azerbaijan

Private Fertilizer Importer Arzu Shahnazarov's Success Story

The fertilizer importer Arzu Shahnazarov used to import ammonium nitrate (AN) fertilizer from the Rustavi, Georgia, AZOT chemical factory as their representative in Azerbaijan. In 2001 and 2002 his average turnover was 18,000-20,000 tons of AN.

In the beginning of 2003, when the Russian gas supplier ITERA LLC took over the Rustavi factory, the new parent company appointed another company as their exclusive representative in Azerbaijan. Thus, Arzu lost his only supply source and was forced to urgently look for different suppliers.

Because Arzu did not trade with other fertilizer manufacturers and traders before, it was a challenge for him to identify new reliable suppliers. Hours of telephone negotiations with different international fertilizer manufacturers and numerous visits to Russian AN producers did not result in new supply contracts. Russian factories accepted his advance payments, but delayed shipments or even returned the money after a few months due to a fertilizer shortage.

In 2003 his turnover declined by two-thirds and Arzu continued looking for reliable suppliers. He realized that availability of money is not the only condition for successful fertilizer trading. Access to information and contract reliability are important in fertilizer trade. Finally, he asked the IFDC/AMDA project for support. The project provided Arzu with contact details of Russian fertilizer manufacturers.

These contacts resulted in quotations from various manufacturers. Arzu made an advanced payment of US \$100,000 and received 1,000 tons from his new supply partner. After arrival of the first lot, he immediately purchased another 1,000 tons. In this way he could solve a seasonal supply shortage for Azerbaijani farmers.

From January to June 2004, Arzu imported 10,000 tons of AN from five different suppliers. He was very active and regained his old market share. He also won a new strategic customer from the cotton sector supplying 6,500 tons of AN in 2004.

In June 2004, the IFDC/AMDA project assisted his participation at "The 2nd FMB/AOA East European Fertilizer Conference and Exhibition" in Moscow. During the conference Arzu

negotiated with the five largest fertilizer manufacturers and fertilizer traders from Russia, France, Ireland, and Iran who confirmed their willingness to supply fertilizer to Azerbaijan. Among the Russian traders was his new fertilizer supplier whom he personally met for the first time. Arzu was invited to visit offices of PHOSAGRO and TRANSAZOT companies in Moscow for discussion. The Italian company VALAGRO approached him to become their representative in Azerbaijan for micronutrients, bio-stimulants, and foliar fertilizers.

During the conference, Arzu had a chance to share ideas with manufacturers, find out their future plans and policies for Azerbaijan, and negotiate for fertilizer supplies. He substantially extended his vision, became aware of market forecasts, trends, current developments, and problems of FSU fertilizer manufacturers.

Returning to Azerbaijan Arzu confirmed that the benefit he received from his participation is invaluable. He said that with IFDC support he was able to solve problems in 2 days, which he could not solve for a year. He received several offers for long-term cooperation, learned about new fertilizer products, and received up-to-date information on fertilizer supplies in eastern European countries.

Today, with access to the newest market information, he can plan his business with confidence and ensure a continuous fertilizer supply on time, the required quantities, and reasonable prices for Azerbaijani farmers.

Appendix 3. List of Project Reports, Papers, and Documents

Type of Material
Project Newsletters
Project Newsletter Issue 1, June 2003
Project Newsletter Issue 2, August 2003
Project Newsletter Issue 3, October 2003
Project Newsletter Issue 4, December 2003
Project Newsletter Issue 5, February 2004
Project Newsletter Issue 6, March-April 2004
Project Newsletter Issue 7, May-June 2004
Project Newsletter Issue 8, August-September 2004
Agricultural Commodity Market Reports
Agricultural Commodity Market Report, July 2003
Agricultural Commodity Market Report, August 2003
Agricultural Commodity Market Report, September 2003
Agricultural Commodity Market Report, October 2003
Agricultural Commodity Market Report, November 2003
Agricultural Commodity Market Report, December 2003
Agricultural Commodity Market Report, January 2004
Agricultural Commodity Market Report, February 2004
Agricultural Commodity Market Report, Issue 22, April 2004
Agricultural Commodity Market Report, Issue 23, May 2004
Agricultural Commodity Market Report, Issue 24, June 2004
Agricultural Commodity Market Report, Issue 25, July 2004
Agricultural Commodity Market Report, Issue 26, August 2004
Agricultural Commodity Market Report, Issue 27, September 2004
Annual Reports
First Annual Report, February 2002-March 2003
Second Annual Report, April 2003-March 2004
Third Annual Report, April 2004-January 2005
Newspaper Articles
<i>"Recommendations for Proper Application of Fertilizers," Yeni Azerbaijan, January 15, 2003</i>
<i>"Proper Application of Fertilizer, DAP," Yeni Azerbaijan, January 24, 2003</i>
<i>"Recommendations for Potato Growing," Yeni Azerbaijan, January 29, 2003</i>
<i>"Potato Pest and Disease Control," Yeni Azerbaijan, February 02, 2003</i>
<i>"Technical Recommendations on Apple Growing," Yeni Azerbaijan, February 11, 2003</i>
<i>"Winter Services in Apple Orchards," Yeni Azerbaijan, February 18, 2003</i>
<i>"Safe Use of CPPs," Yeni Azerbaijan, February 25, 2003</i>
<i>"Safe Use of CPPs" (continued), Yeni Azerbaijan, March 04, 2003</i>
<i>"Safe Use of CPPs" (continued), Yeni Azerbaijan, March 12, 2003</i>
<i>"Safe Use of CPPs" (continued), Yeni Azerbaijan, March 25, 2003</i>
<i>"Safe Use of CPPs" (continued), Yeni Azerbaijan, April 01, 2003</i>
<i>"Safe Use of CPPs and the Environment," Ecological Life, March 05-11, 2003</i>

Type of Material
“IFDC Blames Agriculture Ministry for Delaying Reforms,” <i>Azernews</i> , April 23-29, 2003
“New Project in Agriculture: The Project Granted By USAID Will Increase Productivity in Agriculture for several times,” <i>Bizim Esr</i> , April 08, 2003
“Technical Support to Dealers,” <i>Hefte Ichi</i> , April 04, 2003
“Forum tackles Agrobusiness. Fertilizer factory needs funds,” <i>Baku Sun</i> , April 11, 2003
“Association of dealers of Agriculture Production means (fertilizer, pesticides and seeds) established,” <i>Economics – bulletin of Turan , News Agency</i> , May 12, 2003
“Azerbaijan Agriculture Traders Association has been established,” <i>Daily News (Bulletin of Azer Press)</i> , May 12, 2003
“IFDC established new organization which will unite the dealers,” <i>Assa Irada - Bulletin of Independent New Agency</i> , May 13,2003
“One More Association was Established,” <i>Bizim Esr</i> , May 13, 2003
“Future of Municipalities is Bright (collaboration between IFDC and dealers, and potato demonstration field),” <i>Islahat</i> , June 2003
“Getting Back to basics in the agro-input,” <i>NGO Focus</i> , June 2003
“Agricultural projects in Azerbaijan,” <i>Girdiman</i> , July 21-31, 2003
“Second life of Guba Apple,” <i>Zerkalo</i> , October 04, 2003
“Three Model Greenhouses Based On Israeli Technology Made In Azerbaijan,” <i>Turan News Agency</i> , January 23, 2004
“Three Greenhouses with Israeli Technology Established in Azerbaijan,” <i>Baki Xeber</i> , January 24, 2004
“The Agro-Input Market Development In Azerbaijan,” <i>Baku Sun</i> , January 30, 2004
Press Release, <i>The Azeri Times</i> , January 30, 2004
“Israeli Hothouse And Irrigation Model Presented,” <i>Sharg News Agency</i> , February 11, 2004
“Seminar on Implementation of Israeli Greenhouse technology held,” <i>Turan News Agency</i> , February 11, 2004
“Profitable Production by Growing Early Varieties,” <i>Azerbaijan Izvestiya</i> , March 24, 2004
“Kiwi Growing With Enthusiasm,” <i>Azerbaijan Izvestiya</i> , March 24, 2004
“Potato Growing Practice,” <i>Servet</i> , March 2004
“Average Meat Price in Azerbaijan Markets,” <i>Servet</i> , March 2004
“Government Provides Little Support to Agriculture,” <i>525th Newspaper</i> , March 24, 2004
“Visiting the Provinces: Dinner with Candle Lights AMDA Work in the Rural Regions,” <i>The Azeri Times</i> , March 26, 2004
“Potato Production Practice”
“Technical Innovation in Farm Production,” April 30, 2004
“Technical Innovation in Farming,” April 30, 2004
“Fertilizer Dealers Tasks and Targets,” May 24, 2004
“Importing Role of AKTIVTA Integrating Azerbaijan Input Markets, May 25, 2004
“Once Upon A Time in Guba Hall,” May 26, 2004
“Dealers as Extension Workers,” Jun3 1, 2004
“Wheat Demonstration Program,” July 9, 2004
“Inauguration of Lenkeran Orphanage Vegetable Garden,” August 16, 2004
“Dealers as Propagandists,” <i>Azerbaijan Izvestiya</i> , June 01, 2004

Type of Material
Leaflets
Apple Pests and Diseases, February 20, 2003
Safety Pesticide Use, March 11, 2003
Pest of Potato, March 13, 2003
Diseases of Potato, March 14, 2003
Alfalfa, March 20, 2003
Cabbage, June 3, 2003
Tomato, June 12, 2003
Cucumber, June 23, 2003
Tomato Diseases, July 28, 2003
Wheat recommendation for Ganja region, October 20, 2003
Wheat recommendation for Sheki region, October 20, 2003
Wheat recommendation for Lenkoran region, October 28, 2003
Potato recommendation for Jalilabad region , December 1, 2003
Wheat recommendation for Guba - Khachmaz region, October 28, 2003
Potato recommendation for Tovuz region, December 1, 2003
Apple recommendation for Guba – Khachmaz region, December 1, 2003
Presentation List of AAIDA, October 20, 2003
Wire Warm control, January 1, 2004
Zabrus tenebroidis, January 24, 2004
Motorized Pesticide Sprayer, March 12, 2004
Soil Testing
Fertilizer Utilization
Winter Wheat Growing
Phosphate Fertilizer
Different Wheat Varieties
Potassium FertilizerPlanting Potatoes
Pre-Sprouting Potatoes
Wheat Technology
Tomato Trial Results
Determination of Wheat Seed Rate
Apple Trial Results
Farmers Package Handout on Wheat Production, October 2003
Control of Kernel Burnt in Wheat Production, October 2003
Wheat Varieties, October 2003
Potato Production in Tovus Region, November 2003
Potato Production in Jalilabad Region, November 2003
Control of Apple Diseases, November 2003
The Concept of Agricultural Marketing (book), December 2003
Apple Growing Recommendations, December 2003
Tomato Trials (reprint), February 2004
Seed Rates (reprint), February 2004

Type of Material
DAP Fertilizer (reprint), February 2004
Onion Growing
Foliar Fertilizers, May 2004
Brochures
Fertilizer Effective Use, March 12, 2003
Safety Pesticide Use, March 26, 2003
Alfalfa Technology, April 28, 2003
Maize Pests and Diseases, April 28, 2003
Fruits Pests and Diseases, July 3, 2003
Apple Technology, September 23, 2003
Agro Marketing, February 4, 2004
Plant Protection Methods in Wheat Production
Potato Agronomic Practices
Quality Standards in Potato Production, April 2004
Fruit and Vegetable Standards, October 2004
Fruit and Vegetable EU Standards, October 2004
Pests and Diseases in Arable Crops, September 2004
Pests and Diseases in Apple Production, November 2004
Booklets
Carnal Burnt Disease (wheat)
Plant Protection Methods in Potato Production
Potato Technology
Potato Production Technology
Wheat Production Technology
Avoiding Damages in Potato Production, May 2004
Marketing Standards of Fresh Fruits and Vegetables
Publications
Wheat Varieties, January 29, 2003
Seed Rates Wheat, January 29, 2003
Diammonium Phosphate, January 29, 2003
Urea, January 29, 2003
Fertilizer, January 29, 2003
Soil Preparation, January 15, 2003
Fertilizer Effective Use, February 28, 2003
Potato Growing Technology, February 21, 2003
Potato Pests and Diseases, February 21, 2003
Potato Technology, July 2003
Apple Production, September 2003
Marketing Standards of Fresh Fruits and Vegetables
Television
Greenhouse Technology/Television, March (25 minutes)
Disease Control in Wheat Production/Television (18 minutes)
Fertilizer and their effective applications (28 minutes)
Control of Zabrus Tenebriodis in Wheat Production (18 minutes)

Type of Material
Pest and Disease Control in Potato Production (29 minutes)
Winter Wheat Planting (21 minutes)
AKTIVTA: Promotion of Agriculture Associations (30 minutes)
Round Table Discussions: AKTIVTA (60 minutes)
Round Table Discussion: Pest and Disease Control in Crop Production (60 minutes)
AKTIVTA Activities, documentary, AzTV1 (25 minutes)
Opening of the AMDA-supported vegetable garden at the orphanage in Lenkeran, August 2004
Posters
Crop Rotation of Vegetables
Wheat Technology, July 2003
Potato Technology, July 2003
Crop Rotation, July 2003
Guidelines
Fertilizer Guidelines for Agri-Input Dealers, July 2004
Input Subsidies and Agriculture Development, November 2004
Observations and Recommendations Improving Current National Seed Stock Policy in Azerbaijan, August 2004